

PANJAB UNIVERSITY CHANDIGARH



(Established under the Panjab University Act VII of 1947-
Enacted by the Government of India)

PROSPECTUS PU-CET (P.G.) – 2021

**Dates of Test: 12th June 2021 (Saturday)
&
13th June 2021(Sunday)**

**Last date for submission of information on the website to
generate the Login & Password:18-05-2021 (Tuesday)
Website: <http://cetpg.puchd.ac.in>**

PU-CET (PG) FEE[Non-Refundable]

General Category:	Rs. 2175/-
SC/ST/PwD Category:	Rs. 1088/-
Additional Subject:	Rs. 575/- per additional subject

PANJAB UNIVERSITY ANTHEM

तमसो मा ज्योतिर्गमयः तमसो मा ज्योतिर्गमयः तमसो मा ज्योतिर्गमयः तमसो मा ज्योतिर्गमयः पंजाब विश्वविद्यालय तेरी शान-ओ-शौकत सदा रहे मन में तेरा आदर मान और मोहब्बत सदा रहे पंजाब विश्वविद्यालय तेरी शान-ओ-शौकत सदा रहे तू है अपना भविष्य विधाता पंख बिना परवाज़ सिखाता जीवन पुस्तक रोज़ पढ़ा कर सही गलत की समझ बढ़ाता जीवन पुस्तक रोज़ पढ़ा कर सही गलत की समझ बढ़ाता तेरी जय का शंख बजायें रौशन तारे बन जायें वखरी तेरी शोहरत तेरी शोहरत सदा सदा रहे पंजाब विश्वविद्यालय तेरी शान-ओ-शौकत सदा रहे पंजाब विश्वविद्यालय तेरी शान-ओ-शौकत सदा रहे तमसो मा ज्योतिर्गमयः तमसो मा ज्योतिर्गमयः	Tamso ma jyotirgamaya Tamso ma jyotirgamaya Tamso ma jyotirgamaya Tamso ma jyotirgamaya Panjab vishaw vidyalaya Teri shaan-o-shauqat sada rahe Mann mein tera aadar maan Aur mohabbat sada rahe Panjab vishaw vidyalaya Teri shaan-o-shauqat sada rahe Tu hai apna bhavishya vidhata Pankh bina parwaaz sikhata Jeevan pustak roz padha kar Sahi galat ki samajh badhata Jeevan pustak roz padha kar Sahi galat ki samajh badhata Teri jai ka shankh bajayein Roshan tare ban jaayein Vakhari teri shohrat Teri shohrat sada sada rahe Panjab vishaw vidyalaya Teri shaan-o-shauqat sada rahe Panjab vishaw vidyalaya Teri shaan-o-shauqat sada rahe Tamso ma jyotirgamaya Tamso ma jyotirgamaya
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Published by:

Prof. Jagat Bhushan, Controller of Examinations,
Panjab University, Chandigarh

PANJAB UNIVERSITY, CHANDIGARH
Number of Seats in Various Courses

Sr. No.	Courses	Name of the Department/Institution offering the Course	No. of Seats	Seats for NRI / Foreign Nationals Candidates*
1.	LL.M. (One-Year Course) (Semester System)	Department of Laws, P.U., Chandigarh.	42	4NRI + 2 Foreign National
	LL.M. (One-Year Course) (Semester System) (Self Financing Course)	University Institute of Legal Studies (UILS), P.U., Chandigarh	50	4 NRI + 2 Foreign National
	LL.M. (2-Year Course) (Semester System)(Self Financing Course)		a) 25 (for Advocates/Judicial/Officer/Civil Servants discharging Judicial Duties) ^e b) 25 (for Fresh Law Graduates)	2 NRI + 1 Foreign National 2 NRI + 1 Foreign National
	LL.M. (2-Year Course)	UIL, Panjab University Regional Centre, Ludhiana.	26 + 10 (Other Additional Seats)	2NRI + 1 Foreign National
2.	i. M.C.A. (3-Year) Course (Semester System)	Department of Computer Science and Applications, P.U., Chandigarh.	34+2 ^b	5NRI + 2 Foreign Nationals
		P.U., Regional Centre, Muktsar	20+2 ^b	3NRI + 1 Foreign National
		Panjab University Swami Sarvanand Giri, Regional Centre, Hoshiarpur	50+3 ^c	5 NRI + 3 Foreign National
		(Evening)(Self-Financing) Department of Computer Science and Applications, P.U., Chandigarh.	46 +2 ^b	6NRI + 2 Foreign Nationals
3.	M.A. Journalism and Mass Communication (2-Year) Course	School of Communication Studies P.U., Chandigarh.	30	5NRI + 2 Foreign National
4.	Master in Public Health	Centre for Public Health (University Institute for Emerging Areas in Science & Technology) PU, Chandigarh.	17+5 ^d	2 NRI + 1 Foreign National
5.	M.A. (English)	Department of English, P.U. Chandigarh.	95+5 ^f	15 NRI + 5 Foreign National
6.	M.A. (Geography)	Department of Geography, P.U., Chandigarh.	51	7NRI + 3 Foreign National
7.	Master in Disaster Management		25+3 ^g	3 NRI + 1 Foreign National
8.	Master in Geo-informatics		25+3 ^g	3 NRI + 1 Foreign National
9.	M.A. (History)	Department of History, P.U., Chandigarh.	50	5 NRI + 3 Foreign National
10	M.A. (Economics)	Department of Economics, P.U., Chandigarh	80	5 NRI + 4 Foreign National
11	Master of Social Work	Centre for Social Work, UIEASS	33	4 NRI + 2 Foreign National

NOTE: * Eligible NRI/ Foreign Nationals candidates, please consult the guidelines available at Page No. 34-36 of the Prospectus.

^b For candidates who have studied computer science as one of the subjects for three Years or the subject as a full course at the under graduate level.

^c Economically weaker section

^d Only regular employees in Government organization and having atleast one Year service experience be admitted under, "In-service" category. The candidate has to produce "No Objection Certificate" at the time of admission.

^e For preparing merit list of admission, a special weightage of maximum upto 10 marks shall be given to candidates falling under this category i.e. ½ mark for every completed Year of practice/employment.

^f For students who have passed B.A. with Functional English.

^g Sponsored by Govt. / Institutions

12.	M.E. (Chemical)	University Institute of Chemical Engg. & Tech., P.U., Chandigarh.	20	2 NRI +1 Foreign National
13.	M.E. (Food Technology)		10	1NRI +1 Foreign National
14.	M.E. (Chemical with specialization in Environmental Engg.)		10	1 NRI+1 Foreign National
15.	M.Tech. (Polymer)		15+5 (Part time)	2 NRI +1 Foreign National
16.	M.Sc. (Industrial Chemistry)		17	2 NRI +1 Foreign National
17.	ME Electrical Engg. (Instrumentation & Control) (Regular programme)	NITTTR, Sector 26, Chandigarh.	18	-
18.	M.E. (Electronics & Communication Engineering) (Regular Programme)		17	-
19.	ME Computer Science & Engg. (Regular Programme)		18	-
20.	ME Civil Engineering (Construction Technology & Management) (Regular Programme)		25	-
21.	ME Mechanical Engineering (Manufacturing Technology) (Regular Programme)		18	-
22.	M.E. Electrical Engg. (Power System)	University Institute of Engineering & Technology P.U., Chandigarh.	20 ^h	2 NRI+1 Foreign National
23.	M.Tech. Material Science & Technology		20 ^h	2 NRI +1 Foreign National
24.	M.E. Biotechnology		20 ^h	2 NRI+1 Foreign National
25.	M.E. Computer Science & Engineering		20 ^h	2 NRI+1 Foreign National
26.	M.E. Electronics & Communication Engineering		20 ^h	2 NRI+1 Foreign National
27.	M.E. Information Technology		20 ^h	2 NRI+1 Foreign National
28.	M.E. Mechanical Engineering		20 ^h	2 NRI+1 Foreign National
29.	M.Tech. Microelectronics		12+3 (SC/ST) ^h	2 NRI+1 Foreign National
30.	M.E. Computer Science and Engineering (Cyber Security)		15 ^h	2 NRI+1 Foreign National
31.	M.Com (Business Economics)	DAV College, Sector-10, Chandigarh.	40	-
		Guru Nanak Girls College, Model Town, Ludhiana.	40	-
32.	M.Com. (Master of Entrepreneurship and Family Business)	GGDSD College, Sector – 32, Chandigarh.	80	-
		Kamla Lothia S.D. College, Ludhiana.	40	-
33.	M. Com. (Hons.) (Under Hons. School System at UBS w.e.f. 2019-2021)	University Business School, P.U., Chandigarh.	27	3 NRI + 1 Foreign National
34.	M.Com (Business Innovation)	S.C.D. Government College, Ludhiana.	40	-
35.	MBA (Commerce & Information Technology)	MTSM College for Women, Ludhiana. (Only for Girls.)	80	-
36.	Master of Business Administration for Executives (Under Hons. School System at UBS w.e.f. 2019-2021)	University Business School, P.U., Chandigarh. (Meant only for working professionals. Classes to be held in the evening).	30	3 NRI + 2 Foreign National
37.	Master of Physical Education	Department of Physical Education, P.U., Chandigarh.	28	2 NRI + 1 Foreign National
38.	Bachelor of Physical Education		34	2 NRI + 2 Foreign National

^hPreference will be given to GATE qualified candidates. Candidate appearing for PU-CET(PG) will be given admission if some seats will be left vacant after GATE QUALIFIED CANDIDATES ADMISSIONS.

M. Sc. Under the framework of Honours School System				
39	Biochemistry	Department of Biochemistry, P.U., Chandigarh.	30 ⁱ	4NRI + 2 Foreign National
40	Biophysics	Department of Biophysics, P.U., Chandigarh.	25 ⁱ	4 NRI+1 Foreign National
41	Computer Science	Department of Computer Science & Applications P.U., Chandigarh.	11	2 NRI+ 1 Foreign National
42	Mathematics	Department of Mathematics P.U., Chandigarh.	30	5 NRI+ 2 Foreign National
43	Physics (Specialisation in Electronics ^j) (Self Financing Course)	Department of Physics, P.U., Chandigarh.	20	3 NRI+ 1 Foreign National
44	Geology	Department of Geology, P.U., Chandigarh	5	4 NRI+2 Foreign National
M. Sc. (Two-Year Course)				
45	Bioinformatics	GGDSD College Sector 32, Chandigarh.	40	-
46	Environment Science	Department of Environment Studies, P.U., Chandigarh.	20	3 NRI+ 1 Foreign National
47	Human Genomics	National Centre for Human Genomes Studies & Research, P.U., Chandigarh.	15	2 NRI+1 Foreign National
48	Nuclear Medicine	Centre for Nuclear Medicine, P.U., Chandigarh.	10	2 NRI
49	System Biology and Bioinformatics	Centre for System Biology and Bioinformatics P.U., Chandigarh.	13	2 NRI+1 Foreign National
50	Microbial Biotechnology	Deptt. for Microbial Biotechnology, P.U., Chandigarh.	25	2 NRI+ 1 Foreign National
		Post Graduate Govt. College for Girls, Sector 42, Chandigarh.	40	-
		Sri Guru Gobind Singh College, Sector 26, Chandigarh.	40	-
51	Medical Physics ^l	Centre for Medical Physics, P.U., Chandigarh.	10	2 NRI
52	Forensic Science & Criminology	Institute of Forensic Science & Criminology, P.U., Chandigarh.	19 + 1 (In-service candidate from govt. organizations / autonomous institute)	2 NRI+ 1 Foreign National
53	Statistics	Department of Statistics, P.U., Chandigarh	34	5 NRI+ 2 Foreign National
M. Sc. (under the framework of Honours School System) / M.Sc. (2 Year Course)^l				
54	Biotechnology ^k	Department of Biotechnology, P.U., Chandigarh, offers Hons. School course	5+2 (SC)	2 NRI
		DAV College, Sector 10, Chandigarh.	40	
		GGDSD College, Sector 32, Chandigarh.	40	
		SGGS College, Sector-26, Chandigarh.	40	
		DAV College, Abohar.	40	
		Guru Nanak Girls College, Model Town, Ludhiana.	40	
55	Botany	Department of Botany, P.U., Chandigarh, offers Hons. School course	25	4 NRI+ 1 Foreign National
		S. Govt. College of Sci. Education & Research, Jagraon (Ludhiana).	40	2 NRI
		Post Graduate Govt. College for Girls, Sector 11, Chandigarh.	40	-
		Post Graduate Govt. College for Girls, Sector 42, Chandigarh.	40	-
		Govt. College for Girls, Ludhiana	40	-
		Dev Samaj College for Women, Ferozepur City	40	-
		Govt. College for Girls, Ludhiana	40	-

ⁱ The total no. of seats may vary depending on how many students of B.Sc. (Hons.) in Biochemistry OR Biophysics from Panjab University directly seek admission in M.Sc.

^j The entrance test for Medical Physical, Physics (specialisation with electronics) and Physics will be common.

^k Only those students who have cleared B.Sc. Biotechnology or B.Sc. with Biotechnology as elective / vocational course subject studied for 3 years are eligible.

^l AT THE TIME OF Counselling, the candidates seeking admission in M.Sc. Biotechnology should fill separate admission forms in colleges offering M.Sc. Course in Biotechnology. No Centralised Counselling will be done by the Department.

56	Chemistry	Department of Chemistry, P.U., Chandigarh, offers Hons. School course	15	2 NRI+ 1 Foreign National
		Post Graduate Govt.College, Sector 11, Chandigarh.	40	-
		Post Graduate Govt. College for Girls, Sector 11, Chandigarh.	40	-
		S. Govt. College of Sci, Education & Research, Jagraon (Ludhiana).	40	2 NRI
		DAV College, Abohar.	40	
		Guru Nanak Girls College, M.T. Ludhiana.	40	
		GHG Khalsa College, Gurusar Sadhar, Ludhiana.	40	-
		SGGS Khalsa College, Mahilpur Hoshiarpur.	40	
		DAV College, Sector-10, Chandigarh.	40	
		JCDAV College, Dasuya (Hoshiarpur).	40	
		S.P.M. College, Mukerian.	40	
		GGN Khalsa College, Civil Lines, Ludhiana	40	-
		Khalsa College, Garhdiwala	40	
		Dev Samaj College for Women, Ferozepur City	40	-
		SCD Govt. College, Civil Lines, Ludhiana	40	-
		A.S. College Khanna, Ludhiana	40	-
		G.G.N. Khalsa College, Civil Lines, Ludhiana	40	-
57	Physics ¹	Department of Physics, P.U., Chandigarh, offers Hons. School course	40	6 NRI+ 2 Foreign National
		DAV College, Sector 10, Chandigarh.	40	-
		GGDSD College, Sector 32, Chandigarh.	40	
		JCDAV College, Dasuya (HSP).	40	-
		DAV College, Abohar.	40	-
		Guru Nanak Girls College, M.T., Ludhiana.	40	-
		SGGS Khalsa College, Mahilpur.	40	-
		Dev Samaj College for Women, Ferozepur City.	40	-
		GHG Khalsa College, Gurusar Sadhar.	40	-
		S.P.M. College, Mukerian.	40	-
		BAM Khalsa College, Garhshankar, Distt. Hoshiarpur.	40	-
		Guru Nanak National College, Doraha, Distt. Ludhiana.	40	-
		Khalsa College for Women, Sidhwan Khurd	40	-
		SCD Govt. College, Civil Lines, Ludhiana	40	-
		G.N. National College, Doraha, Distt. Ludhiana	One Unit	-
		Khalsa College for Women, Sidhwan khurd, Distt. Ludhiana	One Unit	-
		S.C.D. Govt. College, Civil Lines, Ludhiana	One Unit	-

58	Zoology	Department of Zoology, P.U., Chandigarh, offers Hons. School course	14	2 NRI+ 1 Foreign National
		DAV College, Sector 10, Chandigarh.	40	-
		JC DAV College, Dasuya, Hoshiarpur.	40	-
		Post Graduate Govt.College for Girls, Sector 42, Chandigarh.	40	-
		Post Graduate Govt.College for Girls, Sector 11, Chandigarh.	40	-
		Sri Guru Gobind Singh College, Sector 26, Chandigarh.	40	-
		Dev Samaj College For Women, Ferozepur City	40	-
		DAV College, Abohar	40	-

Faculty members are available in the respective Departments for consultation and guidance of students from 3:00 P.M to 4:00 P.M on working days.

Important Notes Common to all the Courses

- 1) Fee of Rs. 2175/- (Rs. 1088/- for SC/ST/PwD) is meant for only Online Application Form. A candidate can apply in more than one course also. However, he/she will have to pay an additional fee of Rs. 575/- for each additional course.
- 2) Candidate availing concession in the fee under category SC/ST/PwD **OR** Class B/C Regular Employee of PU must send the copy of printout of their Entrance Test Form along with Performa for claiming 50% concession to P.U. Regular Employees ("B" and "C" Class) duly signed by Head/Chairperson, to Assistant Registrar, CET Cell, Aruna Ranjit Chandra, Hall, Panjab University, Chandigarh-160014 by registered post/speed post or by hand on or before 09.06.2021 upto 4:00 PM
- 3) Qualifying an Entrance Test does not entitle a candidate to seek admission in a course. The candidate will have to fill up and submit an online Admission Form at <http://onlineadmissions.puchd.ac.in> and has to meet the eligibility requirements of the course.
- 4) The exact number of seats available for various M.Sc. courses under the framework of Honours School System may vary depending upon the number of candidates already studying in Panjab University B.Sc. (Hons.) course who are eligible for promotion to M.Sc. under the framework of Honours School System.
- 5) The result of the Entrance Test will be available at <http://results.puchd.ac.in>. No separate Result Cards will be issued.
- 6) There will be no cut-off / qualifying marks for M.E. Electrical Engineering (Power System); M.Tech. (Material Science & Technology); M.E. (Biotechnology); M.E. (Computer Science & Engineering); M.E. (Computer Science & Engineering) Cyber Security; M.E. (Electronics and Communication Engineering); M.E. (Information Technology); M.E. (Mechanical Engineering) and M.Tech. (Microelectronics).
- 7) The cut-off marks for passing the Entrance Test for admission to MA (Journalism & Mass Communication) is 40% of the total marks.
- 8) The pass percentage in case of Entrance Test in MA (English), MA (Economics) and MA (History) is 35% (30% in case of candidate belonging to SC/ST/BC/PwD).
- 9) The University will publish Merit List of the candidates for the courses on the basis of attainment of a minimum of 20% (15% in case of candidates belonging to SC/ ST/BC/PwD) of aggregate of maximum marks in the Entrance Test taken as a whole except the courses mentioned at **Sr. No. 6, 7 and 8**.
- 10) The Scheme of Test for MBA for Executive (MBAfEX) will be of 85 marks and consists 85 multiple-choice questions of one mark each.
- 11) Candidates securing equal marks shall be bracketed together. Their *inter-se* merit will be determined by the Institution/Department/Centre to which they are seeking admission in accordance with the following criteria:
 - a) Candidate getting higher percentage of marks in the qualifying examination shall rank higher in order of merit.
 - b) If the marks in qualifying examination are also the same then the candidate obtaining more marks in the immediate lower examination, shall rank higher in order of merit.
 - c) If two or more candidates secure equal marks in (a) & (b) above, the candidate senior in age shall rank higher in the order of merit.
- 12) The final merit for admission shall be made by the concerned Department/Institute/Center after taking into account the various admission criteria and weightage, if applicable.
- 13) The date-wise schedule of, Tentative Merit List (which will be updated after seeking objections, if any); Provisional Merit List; Aptitude Test, Group Discussion, Personnel Interview etc., (wherever applicable); Counselling shall be put on the Online Notice Board of the department as well as Physical Notice Board (only for the courses offered in Panjab University Campus / Regional Centres) and also available at <http://onlineadmissions.puchd.ac.in>
- 14) Under the Choice-Based Credit System obtaining 24 credits in a Generic Elective Course (Subject) in the full B.Sc. (Hons.) course shall also be deemed sufficient to satisfy a requirement for admission to the M.Sc. course in the concerned subject. However, the candidate has to fulfill other requirements as mentioned for respective M.Sc. Courses.

The weightages as applicable to different courses are as follows:

Course	Weightage (%)	
	Entrance Test	Qualifying Examination
LLM (Master of Laws)	80	20
M.C.A. (Master of Computer Application)	50	50
M.A. (Journalism and Mass Communication)	60	40
Master in Public Health	50	50
M.A. (English)	100	-
M.A. (Geography)	50	50
Master in Disaster Management	50	50
Master in Geo-informatics	50	50
M.A. (Economics)	100	-
Master of Social Work **	25	40
M.A.(History)	50	50
M.E. (Chemical)	50	50
M.E. (Food Technology)	50	50
M.E. (Chemical with specialization in Environmental Engg.)	50	50
M.Tech. (Polymer)	50	50
M.Sc. (Industrial Chemistry)	50	50
M.E. Electrical Engg. (Instrumentation & Control) Regular Programme	50	50
M.E. (Electronics and Comm. Engg.) (Regular Programme)	50	50
M.E. (Computer Science and Engg.) (Regular Programme)	50	50
M.E. Computer Science and Engineering (Cyber Security)	50	50
M.E. Civil Engineering (Construction Tech. & Mgt.) (Regular Programme)	50	50
M.E. Mechanical Engineering (Manufacturing Tech.) Regular Programme	50	50
M.E. Electrical Engg. (Power System)	50	50
M.Tech. Material Science & Technology	50	50
M.E. Biotechnology	50	50
M.E. Computer Science & Engineering	50	50
M.E. Electronics & Communication Engineering	50	50
M.E. Information Technology	50	50
M.E. Mechanical Engineering	50	50
M.Tech. Microelectronics	50	50
M.Com. (Business Economics)	50	50
M.Com. (Master of Entrepreneurship and Family Business)	85	15*
M. Com (Hons.)	85	15*
M.Com (Business Innovation)	50	50
MBACIT	50	50
Master of Business Administration for Executives (MBAfEX)	85	15*
M.P.Ed (Master of Physical Education)	50	50
B.P.Ed (Bachelor of Physical Education)	50	50
M.Sc. (under the framework of Honours School System) Biochemistry/Biotechnology/ Botany/ Chemistry/ Physics/ Biophysics /Computer Science/ Mathematics/Zoology/ Physics (Specialisation in Electronics)/ Geology	60	40
M.Sc. (Two-Year Course) Bioinformatics (being offered in the colleges affiliated to P.U.), Environment Science/ Human Genomics /Nuclear Medicine/ System Biology and Bioinformatics/ Forensic Science & Criminology/ Microbial Biotechnology / Statistics	50	50
M.Sc. (Two-Year Course) Medical Physics	60	40

* 7.5% marks Group discussion and 7.5% marks for personal interview.

** 15% marks Group discussion and 20% marks for personal interview.

Fake & Derecognized Universities and Institutes

The candidates who have passed/appeared in the qualifying examination from any of the following Universities (declared as fake by the UGC) are ineligible to appear in the Entrance Tests, as these institutions have been derecognized by the Panjab University.

Delhi

1. Commercial University Ltd., Daryaganj, Delhi.
2. United Nations University, Delhi.
3. Vocational University, Delhi.
4. ADR-Centric Juridical University, ADR House, 8J, Gopala Tower, 25 Rajendra Place, New Delhi-110008.
5. Indian Institute of Science and Engineering, New Delhi.
6. Viswakarma Open University for Self-employment, India, Rozgar Sewasadan, 672, Sanjay Enclave. Opp. GTK Depot. New Delhi-110033
7. Adhyatmik Vishwavidyalaya (Spiritual University), 351-352, Phase-1, Block-A, Vijay Vihar, Rithala, Rohini, Delhi-110085

Karnataka

8. Badaganvi Sarkar World Open University Education Society, Gokak, Belgaum (Karnataka).

Kerala

9. St. John's University, Kishanttam, Kerala.

Maharashtra

10. Raja Arabic University, Nagpur.

West Bengal

11. Indian Institute of Alternative Medicine, 80, Chowringhee Road, Kolkatta - 20.
12. Institute of Alternative Medicine and Research, 8-A, Diamond Harbour Road, Builtech inn, 2nd Floor, Thakurpurkur, Kolkatta - 700063.

Uttar Pradesh

13. Varanaseya Sanskrit Vishwavidyalaya, Varanasi (U.P.), Jagatpuri, Delhi.
14. Mahila Gram Vidyapith/ Vishwavidyalaya, (Women's University) Prayag, Allahabad (U.P.).
15. Gandhi Hindi Vidyapith, Prayag, Allahabad (Uttar Pradesh)
16. National University of Electro Complex, Homeopathy, Kanpur (Uttar Pradesh).
17. Netaji Subhash Chandra Bose University (Open University), Achaltal, Aligarh (Uttar Pradesh).
18. Uttar Pradesh Vishwavidyalaya, Kosi Kalan, Mathura (Uttar Pradesh).
19. Maharana Partap Shiksha Niketan Vishwavidyalaya, Partapgarh (Uttar Pradesh).
20. Indraprastha Shiksha Parishad, Institutional Area, Khoda, Makanpur, Noida Phase-II, Uttar Pradesh.

Odisha

21. Nababharat Shiksha Parishad, Anupurna Bhawan, Plot No. 242, Pani Tanki Road, Shaktinagar, Rourkela-769014.
22. North Orissa University of Agriculture & Technology, University Road Baripada,, Distt. Mayurbhanj, Odisha- 757003

Puducherry

23. Sree Bodhi academy of Higher Education, No.186, Thilaspeth, Vazuthavoor Road, Puducherry-605009

Andhra Pradesh

24. Christ New Testament Deemed University, # 32-23-2003, 7th Lane, Kakumanavarithota, Guntur, Andhra Pradesh-522 002 or # flat No. 301, Grace Villa Apts., 7/5, Srinagar, Guntur, Andhra Pradesh-522 002

*** Bhartiya Shiksha Parishad, Lucknow, UP - the matter is subjudice before the District Judge - Lucknow**

University de-recognized by Panjab University (Syndicate para 7, dated 20.03.2017)

1. E.I.I.L.M. University Sikkim degrees received after 2013-14

Eligibility Conditions and Scheme of Test

Master of Laws (L.L.M. One-Year Course and L.L.M. Two Year Course)

Eligibility Conditions

A person who has passed one of the following examinations shall be eligible after qualifying the entrance test to join the first semester class of the LL.M. Course:-

- (a) LL.B. 3 Year Degree/ B.A. LL.B. / B.Com. LL.B. 5 Year degree examination of this University with minimum 55% marks (50% in case of SC/ST/BC/PwD candidates);

OR

- (b) Any equivalent examination of another University recognized by the Syndicate for this purpose.

Scheme of Test

The duration of the Entrance Test will be of 1 hour and 30 minutes. The Entrance Test will be of 100marks. The questions will be based upon following four components:

S.No	Components	Marks
1.	Constitution Law, Administrative Law, Service Law, Environmental Law and Human Rights.	50 MCQ (1 Mark Each)
2.	Indian Penal Code (IPC), Cr. Pr. Code and Law of Evidence	15 MCQ (1 Mark Each)
3.	Jurisprudence	10 MCQ (1 Mark Each)
4.	Family Law, Law of Contract, Law of Torts, Public International Law, Labour Laws and Company Law.	25 MCQ (1 Mark Each)

Master of Computer Applications M.C.A.3-Year Course and M.C.A. (Evening)(Self-Financing)3-YearCourse

Eligibility Conditions

The minimum qualification for admission to the first Year of the course shall be:

- i) A recognized first degree of minimum three Years' duration in any discipline with at least 50% marks(**) and with Mathematics at 10+2 or at graduation level (all three Years);

Or

- ii) B.C.A. from Panjab University with 50% marks (**)

Or

- iii) B.Voc. (Software Development), B.Voc. (Hardware and Networking) & B.Voc. Multimedia (Graphics & Animation) with at least 50% marks (**) and with Mathematics at 10+2 level.

Or

- iv) Any examination recognized by the Panjab University Chandigarh as equivalent to any of the above examination (i), (ii) or (iii).

** 5% concession is admissible in eligibility requirement to SC/ST/BC/PwD candidates.

Scheme of Test

The test of 1 hour 30 minutes duration shall contain 75 Objective Type (Multiple choice questions with four responses i.e. A, B, C, & D) carrying one mark each.

The questions will be based upon following four components:

	Component	No. of Questions
1	Mathematics (10+2 level)	40
2	Computer Science	15
3	English	10
4	Reasoning & Aptitude	10

M.A. Journalism and Mass Communication

Eligibility Conditions

Passes one of the following examinations from a recognized University:-

- (i) Bachelor's degree in any discipline with 50% marks in the aggregate.
OR
- (ii) Bachelor's degree with at least 45% marks in the subject of Journalism & Mass Communication.
OR
- (iii) Bachelor's degree with Hons. In the subject of Journalism & Mass Communication.
OR
- (iv) Master's degree examination in any other subject.

Scheme of Test

The test of 1 hour and 30 minutes duration will comprise of Objective & Subjective Type Questions for 65 marks out of the total 75 marks. The remaining 10 marks would be divided equally between the group discussion and interview to be held consequent to the entrance test. The test will be divided into five following components:

1. Article writing on current events
2. Precis writing
3. Feature, writing on personalities, reviews etc.
4. Current affairs and General Knowledge
5. Interpretative passage

Candidates who clear the entrance test have to apply afresh in the School of Communication Studies. The cutoff marks for passing the Entrance Test for admission to MA (Journalism & Mass Communication) is 40% of total marks.

Master in Public Health

Eligibility Conditions

Bachelor's degree in any discipline with at least 50% marks from recognized University/Institute.

Scheme of Test

The duration of the Entrance Test will be 1 hour 30 minutes and it will consist of 75 multiple-choice questions of one mark each. There will be 25 from Biological Sciences, 10 from Social Sciences, 25 from Health Sciences and Medical Vocabulary, 15 on Environment Sciences.

M.A. (English)

Eligibility Conditions

A person who has passed one of the following examinations from Panjab University or from any other University whose examination has been recognized equivalent to the corresponding examination of this University:

- i. Bachelor's Degree obtaining at least 45% marks in English Elective or English Compulsory subject.
- ii. Bachelor's Degree in any faculty with 50% marks in the aggregate.
- iii. B.A. with (Hons.) in English\
- iv. B.A./B.Sc. with (Hons.) in subject other than English obtaining at least 50% marks in aggregate.
- v. Masters Degree examination in any other subject with 50% marks in aggregate.
The pass percentage in case of entrance test in English stands increased to 35% (30% in case of candidate belonging to SC/ST/BC/PwD) w.e.f the session 2013-2014.

Scheme of Test

The written Test will be of 1 hour and 30 minutes duration and will carry 75 marks. The pattern of the CET should be as follows:

- | | | |
|----|--|----------|
| 1. | An essay of about 400 words | 25 marks |
| 2. | An unseen poem as a reading comprehension passage. Knowledge of Literary appreciation will also be tested in this question | 20 marks |
| 3. | Precis - Writing | 15 marks |
| 4. | Multiple Choice Questions to check the candidates knowledge of English Literature and language | 15 marks |

MA (Geography)

Eligibility Conditions

A person shall be eligible only if:-

1. he/she has a Bachelor's Degree with atleast 50% marks in the aggregate.
2. he/she has passed in Geography in the B.A. or B.Sc. examination with at least 45% marks;
OR
has obtained Post-graduate diploma in Cartography with atleast second division.

The Admission to the course shall be through an Entrance Test. The apportioning of weightages for the purpose of preparing the merit list will be as follows:-

Written Entrance Test: 50%
Qualifying Examination (Bachelor's degree): 50%

Academic and other weightage(s), if any, shall be based on the percentage of marks obtained by the eligible candidates in the Qualifying Examination (Bachelor's Degree) as prescribed and admissible under Panjab University Rules.

Scheme of Test

The duration of the Entrance Test will be 1 hour 30 minutes and it will consist of 75 multiple-choice questions of one mark each.

Masters in Disaster Management

Eligibility Conditions

Graduation in any discipline with atleast 50% marks in aggregate from Panjab University or from any other University recognized by the Panjab University as equivalent thereto. The Admission to the course shall be through an Entrance Test.

All candidates, except those sponsored by the Government / Institutions, will be required to qualify the Entrance Test conducted by the Panjab University, Chandigarh. The apportioning of Weightages for the purpose of preparing the merit list will be as follows:-

Written Entrance Test: 50%
Qualifying Examination (Bachelor's degree): 50%

Academic and other weightage(s), if any, shall be based on the percentage of marks obtained by the eligible candidates in the Qualifying Examination (Bachelor's Degree) as prescribed and admissible under Panjab University Rules.

Scheme of Test

The duration of the Entrance Test will be 1 hour 30 minutes and it will consist of 75 multiple-choice questions of one mark each.

Masters in Geoinformatics

Bachelor's Degree with Geography / Geology / Geophysics / Mathematics / Physics / Botany / Environment Science / Computer Science/ Urban Planning/ Regional Planning / B.Tech. / B.C.A. or Master's Degree in Geography / Geology/ Geophysics/ Mathematics/ Physics/Botany/ Environment Science / Computer Science / M.C.A./ Urban Planning/ Regional Planning with at least 50% marks in aggregate. The admission to the course shall be through Entrance Test.

All candidates, except those sponsored by the Government / Semi-Government Organizations and Institutions, will be required to qualify the Entrance Test conducted by the Panjab University, Chandigarh. The apportioning of Weightages for the purpose of preparing the merit list will be as follows:-

Written Entrance Test: 50%
Qualifying Examination (Bachelor's degree): 50%

Students who have studied Geography at the B.A./B.Sc./ M.A./ M.Sc. level shall be given an additional weightage of 15 per cent of the academic score at Bachelor's level.

Academic and other weightage(s), if any, shall be based on the percentage of marks obtained by the eligible candidates in the Qualifying Examination (Bachelor's Degree) as prescribed and admissible under Panjab University Rules.

Scheme of Test

The duration of the Entrance Test will be 1 hour 30 minutes and it will consist of 75 multiple-choice questions of one mark each.

M.A. (History)

Eligibility Conditions

- B.A. with Honours in History.
- Bachelor's degree in any faculty with atleast 50% marks in the aggregate.
- B.A. (PASS) / B.Sc. (PASS) examination in full subjects obtaining atleast 45% marks in the subject of History.
- Master's degree examination in another subject or another faculty.
- The pass percentage of entrance test in history is 35% (30% in case of candidates belonging to SC/ST/BC/PwD).

The candidates should have passed the written Entrance Test conducted by Panjab University, Chandigarh. The merit list will be prepared considering the marks obtained in the Entrance Test and the Qualifying Examination as per the following criteria:-

Written Entrance Test	:	50%
Qualifying Examination	:	50%

Academic and other weightages if any will be based on the percentage of marks obtained by the eligible candidates in the Qualifying examination.

Scheme of Test

- ◆ Entrance Test to be of 1 hour 30 minutes of duration and of total of 75 marks.
- ◆ The test is divided into three units, i.e. Unit-I, II and III.
- ◆ Candidates will attempt 3 questions in all, selecting them from Unit-I, II & III.
- ◆ Candidates can write answers in English or Hindi or Punjabi languages.
- ◆ Question No. 1 under Unit-I is compulsory. It consists of 08 concept related questions. Out of these 08, candidates will attempt any 05. Each question has to be answered in 80-100 words. Each question carries 05 marks. Total marks allotted to Question – I under Unit-I are 5x5=25 marks.
- ◆ Unit-II consists of 04 Essay type Questions, from Question No. II to IV which are related to B.A. (General) History syllabus. Atleast one question in Unit-II should be set each from Ancient, Medieval, Modern periods of India History and the History of Punjab. Candidates will attempt any one question in Unit-II. Each question has to be answered in about 1000 words. Each question carries 25 marks.
- ◆ Unit-III contains 02 questions i.e Question No. VI and VII, one from Current Affairs and another from Significant Contemporary themes in order to test comprehension and communication skills of the candidates. Candidates will attempt any one question in Unit-III. Each question has to be answered in about 1000 words. Each question carries 25 marks.

M.A. (Economics)

Eligibility Conditions:

The candidates appearing for the Entrance Test for admission to M.A. Economics in the Department of Economics, Panjab University, Chandigarh from the academic session 2019-20 will be subject to the following eligibility conditions:

- (i) The candidate must have passed B.A. with Honours in Economics, **OR** B.A. with Economics as an elective subject with 50% marks in aggregate.
- (ii) Any other degree awarded by a UGC recognized University / Institution that is equivalent to either of the above mentioned degrees of the Panjab University.
- (iii) Candidate having reappear or compartment at the time of first counseling is not eligible for admission in the course even though he/she clears the reappear or compartment by the time of subsequent round of counseling.

Scheme of Test:

- (i) The duration of the Entrance Test will be one hour and thirty minutes and it will consist of 75 multi-choice questions of one mark each based on the **syllabus provided for the test**. There will be negative marking for wrong answers. $\frac{1}{4}$ marks will be deducted for wrong answers.
- (ii) The Pattern of question paper of the Entrance Test would include questions pertaining to the various aspects of Economics as per the following scheme:

<u>Specialization</u>	<u>No. of questions</u>
(a) Microeconomics	10
(b) Macroeconomics	10
(c) Indian Economy	10
(d) Economics of Growth, Development & Planning	10
(e) Mathematics and Statistics	10
(f) Econometrics	10
(g) Applied Economics- (Industrial Economics, Agricultural Economics, International Economics, Public Finance and Money and Banking)	10 (2 from each)
(h) Logical Reasoning	05

Admission to M.A. in Economics should be done purely on the basis of Entrance Test only.

Master of Social Work

Eligibility Conditions

The Entrance Test is open to all such candidates who have any one of the following qualifications:

- (a) Bachelor's degree obtaining at least 50% marks in any discipline from a recognized University / Institute.
- (b) The Candidate belonging to SC/ST/BC/PwD categories shall be allowed 5% relaxation in the eligibility requirements.
- (c) The candidates who have appeared / are appearing in the final year of Bachelor's degree are also eligible to apply

Admission: Admission will be through qualifying the P.U. CET (PG) examination.

All the candidates are required to secure a minimum of 35% marks in the Entrance Test. The Entrance test will include 75 objective type questions. The duration of the test will be 90 minutes. The medium of examination will be English only. There will be no negative marking for the wrong answers.

Candidates who qualify the entrance test have to apply afresh for admission in Social Work and will be called for Group Discussion and Personal Interview as per the schedule approved by the D.U.I.

M.E. (Chemical)

&

M.E. (Chemical with specialization in Environmental Engineering)

Eligibility Conditions:

B.E./ B.Tech. (Chemical) (04Years) or Five Year Integrated B.E.(Chemical) – MBA at least 60% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or Head of the Department) in the qualifying examination i.e. B.E./ B.Tech. (Chemical) (04 years) or Five Year Integrated B.E. (Chem.) – MBA or any other equivalent qualifying degree as approved by the PU Syndicate.

The candidate shall be admitted on the basis of the PU-CET (P.G.) merit conducted by Panjab University, Chandigarh.

Based on Entrance Test P.U. – CET (P.G.). The merit list of eligible P.U.-CET (P.G.) qualified candidates shall be as per the following criteria:-

Academic Marks: 50%
PU – CET (P.G.): 50%

GATE qualified candidates will be exempted from the PU-CET (P.G.). However, in case of eligible GATE qualified candidates the merit list will be as per GATE Score obtained and shall be offered the seat in first instance.

Scheme of Test:

The duration of the Entrance Test will be 1 hour 30 minutes and it will consists of 75 multiple-choice questions of one mark each. The syllabus will be based broadly on the course contents generally covered during qualifying examinations.

In case of Objective Type questions papers having OMR sheets, there will be NEGATIVE MARKING FOR WRONG ANSWERS, i.e. marks will be deducted for wrong answers. If for each correct answer 1 mark is to be awarded, for wrong answer $\frac{1}{4}$ marks will be deducted.

NOTE: There will be common entrance test for M.E. (Chemical) and M.E. (Chemical with specialization in Environmental Engineering).

M.E. (Food Technology)

Eligibility Conditions:

B.E./ B.Tech. degree in Food Technology / Dairy Technology/ Agricultural Engineering / Food Engineering / Chemical Engineering / Chemical Technology (04Years) or Five Year Integrated B.E.(Chemical) - MBA or any other equivalent qualifying degree as approved by the PU Syndicate at least 60% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or Head of the Department).

The candidate shall be admitted on the basis of the PU-CET (P.G.) merit conducted by Panjab University, Chandigarh.

Based on Entrance Test P.U. – CET (P.G.). The merit list of eligible P.U.-CET (P.G.) qualified candidates shall be as per the following criteria:-

Academic Marks: 50%
PU – CET (P.G.): 50%

GATE qualified candidates will be exempted from the PU-CET (P.G.). However, in case of eligible GATE qualified candidates the merit list will be as per the GATE Score obtained and shall be offered the seat in first instance.

Scheme of Test:

The duration of the Entrance Test will be 1 hour 30 minutes and it will consists of 75 multiple-choice questions of one mark each. The syllabus will be based broadly on the course contents generally covered during qualifying examinations.

In case of Objective Type questions papers having OMR sheets, there will be NEGATIVE MARKING FOR WRONG ANSWERS, i.e. marks will be deducted for wrong answers. If for each correct answer 1 mark is to be awarded, for wrong answer $\frac{1}{4}$ marks will be deducted.

M.TECH. (POLYMER)

B.E./B.Tech. (Chemical) (04Years) or Five Year Integrated B.E.(Chemical) –MBA at least 60% marks in the aggregate (in case students are awarded degree in CGPA), they must have the conversion formula issued by the concerned University or Head of the Department) in the qualifying examination i.e. B.E./ B.Tech. (Chemical) (04 years) or Five Year Integrated B.E. (Chem.) – MBA or any other equivalent qualifying degree as approved by the PU Syndicate.

OR

Master's degree in Technical Chemistry/ Applied Chemistry / Industrial Chemistry /Chemistry (with Mathematics upto graduation) or an equivalent examination with at least 55% marks in aggregate from Panjab University (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or Head of the Department) or any other University recognized by Panjab University as equivalent thereto.

Based on Entrance Test P.U. – CET (P.G.). The merit list of eligible P.U.-CET (P.G.) qualified candidates shall be as per the following criteria:-

Academic Marks: 50%
PU – CET (P.G.): 50%

GATE qualified candidates will be exempted from the PU-CET (P.G.). However, in case of eligible GATE qualified candidates the merit list will be as per GATE Score obtained and shall be offered the seat in first instance.

Scheme of Test:

The duration of the Entrance Test will be 1 hour 30 minutes and it will consist of 75 multiple-choice questions of one mark each. The syllabus will be based broadly on the course contents generally covered during qualifying examinations.

In case of Objective Type questions papers having OMR sheets, there will be NEGATIVE MARKING FOR WRONG ANSWERS, i.e. marks will be deducted for wrong answers. If for each correct answer 1 mark is to be awarded, for wrong answer $\frac{1}{4}$ marks will be deducted.

M.Sc. (INDUSTRIAL CHEMISTRY)

B.Sc. (Three Year Course) with Mathematics and Chemistry as compulsory subjects/B.Sc. (Hons.) Chemistry with Mathematics as a compulsory subject/B.Sc. (Three Year Course) with Industrial Chemistry and Mathematics as compulsory subject or any other equivalent examination as approved by the Syndicate, Panjab University, Chandigarh. A candidate seeking admission must have obtained a minimum of at least 55% marks in the aggregate (in case students are awarded degree in CGPA, they must have the conversion formula issued by the concerned University or Head of the Department) in the qualifying examination mentioned.

Based on Entrance Test P.U. – CET (P.G.). The merit list of eligible P.U.-CET (P.G.) qualified candidates shall be as per the following criteria:-

Academic Marks: 50%
PU – CET (P.G.): 50%

Scheme of Test:

The duration of the Entrance Test will be of 1 hour 30 minutes and it will consist of 75 multiple-choice questions of one mark each consisting of 20 questions in Physics, 20 questions in Chemistry, 20 questions in Industrial Chemistry & 15 questions in Mathematics. The syllabus will be based broadly on the course contents generally covered during the qualifying examinations.

In case of Objective Type questions papers having OMR sheets, there will be NEGATIVE MARKING FOR WRONG ANSWERS, i.e. marks will be deducted for wrong answers. If for each correct answer 1 mark is to be awarded, for wrong answer $\frac{1}{4}$ marks will be deducted.

M.E. Electrical Engg. (Instrumentation & Control) (Regular Programme)

Eligibility Conditions

B.E. / B. Tech or equivalent in Instrumentation and Control/ Electronics/Electrical Engineering with at least 60% marks in the aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto. Admission is on the basis of entrance test PU-CET (PG) 2021 to be conducted by the Panjab University and interview. GATE qualified candidates will be exempted from the PU-CET (PG) Test. However, in case of eligible GATE qualified candidates, the merit list will be as per the GATE Score obtained and shall be offered the seat at the first instance.

Scheme of Test

The duration of the Entrance Test will be 1 hour 30 minutes. The question paper will consist of 75 multiple-choice questions. The syllabus will be based broadly on the course contents generally covered during qualifying examinations. Each question will be of one mark.

M.E. (Electronics and Communication Engineering) (Regular Programme)

Eligibility Conditions

B.E. or B. Tech or equivalent in Electronics /Electronics & Communication Engineering /Electronics and Telecom Engineering with at least 60% marks in the aggregate from Panjab University or any other university recognized by Panjab University as equivalent thereto.

GATE qualified candidates will be exempted from the PU-CET (P.G.)-2021 Test. However, in case of eligible GATE qualified candidates, the merit list will be as per the GATE score obtained and shall be offered the seat at the first instance.

Scheme of Test

The duration of the Entrance Test will be 1 hour 30 minutes. The question paper will consist of 75 multiple-choice questions. The syllabus will be based broadly on the course contents generally covered during qualifying examinations. Each question will be of one mark.

M. E. (Computer Science & Engineering) (Regular Programme)

Eligibility Conditions

B.E. or B.Tech or equivalent in Computer Science and Engineering/Information Technology with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

GATE qualified candidates shall be exempted from the PU-CET (P.G.) –2021 Test. However, in case of eligible GATE qualified candidates, the merit list will be as per the GATE score obtained and shall be offered the seat in the first instance.

Scheme of Test

The duration of Entrance test will be 1 hour 30 minutes. The question paper will consist of 75 multiple-choice questions. The syllabus will be based broadly on the course contents generally covered during qualifying examinations. Each question will be of one mark.

M.E. Civil Engineering (Construction Technology & Management) (Regular Programme)

A Bachelor's Degree in Civil Engineering from a recognized University or its equivalent with a minimum CGPA of 6.75 or 60% marks in aggregate and post qualification experience of at least 1 year (2 years in case of AMIE) in teaching / industry/ research organization. Admission (against vacant seats) is on the basis of entrance test PU-CET (P.G.)-2021 to be conducted by the Panjab University and interview. GATE qualified candidates will be exempted from the PU-CET (P.G.)-2021 Test. However, in case eligible GATE qualified candidates, the merit list will be as per the GATE score obtained and shall be offered the seat at the first instance.

Scheme of Test:

The duration of the Entrance Test shall be of 1 hour and 30 minutes. The question paper will consist of 75 multiple choice questions. The syllabus will be based broadly on the course contents generally covered during qualifying examinations. Each question will be of one mark.

M.E. Mechanical Engineering (Manufacturing Technology) (Regular Programme)

Eligibility Conditions:

A Bachelor' Degree in Mechanical Engg./ Production Engg./ Industrial Engg./ Automobile engineering/ Manufacturing Technology from a recognized University or its equivalent with a minimum CGPA of 6.75 or 60% marks in aggregate and post qualification experience of at least 1 year (2 years in case of AMIE) in teaching / industry / research organisation. Admission (against vacant seats) is on the basis of entrance test PU-CET (P.G.) to be conducted by the Panjab University and interview, GATE qualified candidates will be exempted from the PU-CET (P.G.) Test. However, in case of eligible GATE qualified candidates, the merit list will be as per the GATE score obtained and shall be offered the seat at the first instance.

Scheme of Test:

The duration of the Entrance Test shall be of 1 hour and 30 minutes. The question paper will consists of 75 multiple choice questions. The syllabus will be based broadly on the course contents generally covered during qualifying examinations. Each question will be of one mark.

M.E. Electrical Engineering (Power System)

Eligibility Conditions:

Any candidate who has completed B.E./B.Tech.in Electrical/Electrical & Electronics Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.

Scheme of Test:

The question paper will be based on the syllabus of Electrical and Electronics Engineering taught at undergraduate level in Panjab University Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four responses i.e. A, B, C, and D) carrying a total 75 marks. The question paper will be of 1 hour and 30 minutes duration.

M.Tech. (Material Science & Technology)

Eligibility Conditions:

M.Sc. (Physics), M.Sc. (Chemistry), B.E.(Mechanical / Electrical / Electronics and communication/ Civil/ Production) with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.

Scheme of Test:

The question paper will be based on Physics, Chemistry, Mathematics and Material Science taught at undergraduate engineering level in Panjab University, Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four responses i.e. A,B,C and D) carrying a total of 75 marks. The question paper will be of 1 hour and 30 minutes duration.

M.E. (Biotechnology)

Eligibility Conditions:

B.E. / B.Tech. Biotechnology Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.

Scheme of Test:

The question paper will be based on the syllabus of Biotechnology Engineering taught at undergraduate level in Panjab University Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four responses i.e. A,B, C, and D) carrying a total 75 marks. The question paper will be of 1 hour and 30 minutes duration.

M.E. (Computer Science & Engineering)

Eligibility Conditions:

B.E. or B.Tech. or equivalent in Computer Science and Engineering / Information Technology with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions.

Scheme of Test:

The question paper will be based on the syllabus of Computer Science and Engineering taught at undergraduate level in Panjab University Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four responses i.e. A, B, C, and D) carrying a total 75 marks. The question paper will be of 1 hour and 30 minutes duration.

M.E. (Electronics and Communication Engineering)

Eligibility Conditions:

B.E. or B.Tech.or equivalent degree in Electronics / Electronics & Communication Engineering / Electronic and Telecommunication Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if seats are left vacant after the GATE qualified candidates admissions.

Scheme of Test:

The question paper will be based on the syllabus of Electronics / Electronics & Communication Engineering / Electronic and Telecommunication Engineering taught at undergraduate level in Panjab University Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four responses i.e. A, B, C, and D) carrying a total 75 marks. The question paper will be of 1 hour and 30 minutes duration.

M.E. (Information Technology)

Eligibility Conditions:

B.E. or B.Tech.or equivalent degree in Information Technology / Computer Science & Engineering / Electronics & Communication Engineering / Electrical & Electronics Engineering / Computer Science & Electronics Engineering / Software Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidate appearing for PU-CET (PG) will be given admission if some seats will be left vacant after the GATE qualified candidates admissions'and according to the criteria.

Scheme of Test:

There will be no separate test. However, admission will be based on PU-CET (PG) in CSE/ ECE/ EEE. The order of preference will be (i) PU-CET (P.G.) in CSE (ii) PU-CET (P.G.) in ECE (iii) PU-CET (P.G.) in EEE.

M.E. (Mechanical Engineering)

Eligibility Conditions:

B.E./ B.Tech. in Mechanical Engineering / Production Engineering with at least 60% marks in aggregate from Panjab University or any other University recognized by Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

The admission shall be made on the basis of Entrance Test P.U. CET (PG) to be conducted by the Panjab University.

GATE qualified candidates shall be exempted from the P.U.-CET (P.G.) Test. However, in case of eligible GATE qualified candidates, the merit list shall be as per the GATE Score obtained and shall be offered the seat at the first instance.

Scheme of Test:

The question paper will be based on the syllabus of Mechanical Engineering / Production Engineering / taught at undergraduate level in Panjab University Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four responses i.e. A, B, C and D) carrying a total 75 marks. The question paper will be of 1 hour and 30 minutes duration.

M.Tech. (Microelectronics)

Eligibility Conditions:

B.E. / B.Tech. or equivalent degree in Computer Science and Engineering / Electrical / Electrical & Electronics / Electronics / Microelectronics / Electronics & Electrical Communications / Electronics & Telecommunication / Electronics & Communication / Information Technology / Instrumentation Engineering/ M.Sc. Applied Physics / M.Sc. Physics with specialization in Electronics or M.Sc. in Electronics (as approved by AICTE) with minimum 60% marks in aggregate from Panjab University or any other University recognized by Panjab University as equivalent thereto.

Mode of admission:

Preference will be given to GATE qualified candidates. Candidates appearing for PU-CET (PG) will be given admission if seats are left vacant after the GATE qualified candidates' admissions.

Scheme of Test:

The question paper will be based on the syllabus of Electronics / Electronics & Communication Engineering / Electronics and Telecommunication Engineering taught at undergraduate level in Panjab University Chandigarh. It will consist of 75 Objective type questions (Multiple choice with four response i.e. A, B, C and D) carrying a total of 75 marks. The questions paper will be of 1 hour and 30 minutes duration.

The scheme of test for M.Tech. (Microelectronics) should be same as that of M.E. (ECE) and Entrance Test for both should be one and common.

M.E. Computer Science Engineering (Cyber Security)

Eligibility Conditions

B.E. or B.Tech.or equivalent degree in Computer Science & Engineering / Information Technology with atleast 60% marks in aggregate from P.U. or any other recognized University.

Mode of admission:

Admission will be done on the basis of GATE Score. In case of left over seats, admission will be done on the basis of Entrance Test P.U.-CET (P.G.) to be conducted by the Panjab University.

Scheme of Test:

There will be no separate entrance test. However, admission will be based on PU-CET (P.G.) in M.E. (Computer Science & Engineering).

M.Com. (Business Economics)

Eligibility Conditions

- (i) A Bachelor's / Post-graduate degree in any discipline of the University or a degree of any other University which has been recognized by the Syndicate as equivalent thereto with not less than 50% marks in the aggregate.

Provided that in case of candidates having Bachelor's degree of the University through Modern Indian Languages [Hindi/ Urdu/ Punjabi (Gurmukhi Script)] and / or in a Classical Language (Sanskrit / Persian / Arabic) or degree of any other University obtained in the same manner recognized by the Syndicate, 50% marks in the aggregate shall be calculated by taking into account full percentage of marks in all the papers in language excluding the additional optional paper, English and the elective subject taken together.

Or

- (ii) Pass in the final examination conducted by (a) The Institute of Chartered Accountants of India or England, (b) The Institute of Cost and Works Accountants of India or England and (c) the Institute of Company Secretaries of India.

Or

- (iii) AMIE examination with 50% marks or more after having passed the diploma examination with 60% marks or above and have atleast 5 years research / teaching or professional experience.

Or

- (iv) Any other qualification as recognized by the Syndicate for this purpose.

Scheme of Test

The question paper of 1 hour 30 minutes duration will consist of 75 Objective Type Questions (Multiple Choice) with four responses i.e. A, B, C & D carrying a total of 75 marks. The standard of the question paper shall be based on the latest syllabus prescribed for Bachelor's degree in Economics/Commerce of Panjab University (1st, 2nd and 3rd Year together).

M.Com. (Master of Entrepreneurship and Family Business)

Eligibility Conditions

- (i) A Bachelor's/Master's degree in any discipline of the University or a Degree of any other University which has been recognized by the Syndicate as equivalent thereto, with not less than 50% marks in the aggregate.
- Or**
- (ii) A pass in the final examination conducted by (a) The Institute of Chartered Accounts of India, (b) The Institute of Cost and Works Accountants of India and (c) The Institute of Company Secretaries of India.

Scheme of Test

The question paper of 1 hour 30 minutes duration will consist of 75 Objective Type Questions (Multiple Choice) with four responses i.e. A, B, C & D carrying a total of 75 marks. The question paper will include questions related to General Knowledge, Verbal/Reasoning ability, Data interpretation and Commerce/Economics.

M.Com. (Honours) (Under Hons. School System at UBS w.e.f. 2019-2021)

Eligibility Conditions

- a) B. Com. / B. Com. (Hons.)/BBA with not less than 45% marks in the aggregate.
- Or**
- b) A graduate with Honours in Economics or Mathematics or Statistics or Commerce with not less than 45% marks in the aggregate;
- Or**
- c) A graduate with 50% marks in the aggregate having offered Economics, Mathematics, Statistics, Commerce, Computer Application, Information Technology or Computer Science as a subject in the examination. Provided that in case of candidates having Bachelors degree of the University through Modern Indian Languages [Hindi/Urdu/Punjabi(Gurmukhi Script)] and/or in a classical language (Sanskrit/Persian/Arabic) or degree of any other University obtained in the same manner recognized by the Syndicate; 50% marks in the aggregate shall be calculated by taking into account full percentage of marks in all the papers in Language excluding the additional optional papers, English and Elective subject taken together.
- Or**
- d) A pass of the Final examination conducted by the Institute of Chartered Accountants of India or England/Institute of Cost and Works Accountants of India or England/ Institute Company Secretaries of India;
- Or**
- e) Any other qualification recognized by the Syndicate for this purpose.

Scheme of Test

The Entrance Test of 1 hour 30 minutes duration shall comprise of one paper of 85 multiple choice (having four responses A, B, C & D) objective type questions of one mark each in the area of Accounting, Management, Laws and Economics.

Merit list

The admission will be made on the basis of the Entrance Test (85% weightage), Group Discussion (7.5% weight age) and Personal Interview (7.5% weightage). The result of the Entrance Test, however, will not be sent to the candidates but will be conveyed confidentially to the Chairman, University Business (UBS) who will compile comprehensive result after the Group Discussion and Interview.

Note:

- (a) The number of candidates to be called for Group Discussion and Personal Interview will be equal to eight times the total number of seats of the course in each category or the actual number of eligible candidates whichever is lower;

- (b) Attendance in Group Discussion and Personal Interview is a must. If any candidate does not attend any one of the components, GD or PI, his / her candidature shall stand cancelled.

M.Com (Business Innovations)

Eligibility Conditions

The Entrance Test for M.Com (Business Innovations) shall be open to all such candidates who possess the qualifications as mentioned below:

- (a) A Bachelor's degree in Commerce (B.Com) or Business Administration (B.B.A) with not less than 45% marks in the aggregate; OR
- (b) B.Com (Hons.) Degree with not less than 45% marks in the aggregate; OR
- (c) A graduation with Honours in Economics OR Mathematics OR Statistics OR Commerce with not less than 45% marks in the aggregate; OR
- (d) A graduation with 50% marks in the aggregate in any other discipline of the University or a degree of any other University which has been recognized by the Syndicate as equivalent thereto. Provided that in case of candidates having Bachelor's degree of the University through Modern Indian Languages (Hindi/Urdu/Punjabi/Gurmukhi script) and / or in a classical language (Sanskrit/Persian/ Arabic) or degree of any other University obtained in the same manner recognized by the Syndicate. 50% marks in the aggregate shall be calculated by taking into account full percentage of marks in all the papers in Language excluding the additional optional paper, English and the elective subject taken together;
- (e) A pass of the final examination conducted by the Institute of Chartered Accountants of India or Institute of Cost and Works Accountants of India or the Institute of Company Secretaries.
- (f) Any other qualification recognized by the Syndicate for this purpose.

Scheme of Test:

The Entrance Test of 1 hour 30 minutes duration shall comprise one paper of 75 marks containing 75 Objective Type questions of multiple choices (having four responses A, B, C & D) carrying one mark each.

The Breakup of questions shall be as follows:

- | | |
|--------------------------|--------------|
| 1. General Knowledge | 15 Questions |
| 2. Business Aptitude | 20 Questions |
| 3. Quantitative Aptitude | 20 Questions |
| 4. Test of Reasoning | 20 Questions |

Merit

Admission to M.Com (Business Innovation) shall be on the basis of the Entrance Test (Weightage 50%), and qualifying examination (Weightage 50%).

Master in Business Administration (Commerce and Information Technology)

Eligibility Conditions

BA /B.Sc. / B.Com./any other Graduation Degree with 50% from Panjab University or any other University recognized by the Syndicate as equivalent thereto.

Scheme of Test

The question paper of 1 hour 30 minutes duration will consist of 75 Objective Type Questions (Multiple Choice) with four responses i.e. A, B, C & D carrying a total of 75 marks. The question paper will include 15 questions each on subject knowledge of Commerce, Economics, IT, Verbal ability/Reasoning and General awareness.

Master of Business Administration for Executives (Under Hons. School System at UBS w.e.f. 2019-2021)

Eligibility Conditions:

The minimum qualification for admission to the first semester of the course shall be –

- (i) A Bachelor's degree in any discipline of the University or a degree of any other University which has been recognized by the Syndicate as equivalent thereto with not less than 50% marks in the aggregate.

Provided that in case of candidates having Bachelor's degree of the University through Modern Indian Languages (Hindi/Urdu/Punjabi (Gurmukhi Script) and/or in a Classical Language (Sanskrit/Persian/Arabic) or degree of any other University obtained in the same manner recognized by the Syndicate, 50% marks in the aggregate shall be calculated by taking into account full percentage of

marks in all the papers in language excluding the additional optional paper, English and the elective subject taken together.

OR

A pass in the final examination conducted by the Institute of Chartered Accountants of India or England / Institute of Cost Accountants of India or Chartered Institute of Management Accountants of England / Institute of Company Secretaries of India;

OR

Diploma in Personnel Management and Labour Welfare or Diploma in Marketing Management with not less than 60% marks in the aggregate, provided the candidate holds a Bachelor's degree.

- (ii) **Two Years whole time executive experience in a commercial or industrial establishment after having passed the qualifying examination as given above. Members of All India or State Administrative / Technical Services and Defence Personnel holding administrative positions with not less than two Years of executive experience will also be eligible. 'No Objection Certificate from the organization, where the candidate is employed is essential'. The cut-off date for considering the Executive Experience of two years will be 31st July of the year for which admission is sought by the candidate.**

Scheme of Test:

The Entrance Test will carry 85 marks and will be of 1 hour 30 minutes duration. It will consist of 85 multiple-choice questions of one mark each and having four responses A, B, C & D. The components of the test will include: General Knowledge; Economics and Business Environment Awareness; Data interpretation and problem solving; Numerical Ability; Verbal Ability/ Reasoning and English Comprehension.

Merit List

The admission will be made on the basis of the Entrance Test (85% weightage), Group Discussion (7.5% weightage) and Personal Interview (7.5% weightage). The result of the Entrance Test, however, will not be sent to the candidates but will be conveyed confidentially to the Chairman, University Business (UBS) who will compile comprehensive result after the Group Discussion and Interview.

Master of Physical Education (Two-Year Course)

Eligibility Conditions

A person who has passed/appeared in any one of the following examinations:

- a) Bachelor of Physical Education (B.P.Ed.) or equivalent with at least 50% marks.
OR
Bachelor of Science (B.Sc. in Health and Physical Education) with at least 50% marks.
- b) The reservation in seats and relaxation in the qualifying marks for SC/ST/BC/PWD and other categories shall be as per the rules of the Central Government/ State Government whichever is applicable.
- c) Any other qualification recognized by the Syndicate as equivalent to (a) and (b).

Admission Procedure

Admission shall be made on merit on the basis of marks obtained in the entrance examination (written test, fitness test, interview and percentage of qualifying examination) as per the policy of Panjab University.

Scheme of Test

The Entrance Test of 1 hour 30 minutes duration shall comprise one paper of 75 marks, containing 75 Objective Type questions of multiple choices (having four responses A, B, C & D) carrying one mark each. Questions will be based on the following three areas of Physical Education and Sports: (a) Aptitude (b) General Knowledge (c) Reasoning Ability.

Bachelor of Physical Education (Two-Year Course)

Eligibility Conditions

A person who has passed/appeared in any one of the following examinations:

- a) Bachelor's Degree in any discipline with 50% marks and having at least participation in the Inter-College/Inter-Zonal District/ School competition in sports and games as recognized by the AIU/IOA/SGFI/Govt. of India;
OR
Bachelor's Degree in physical education with 45% marks;
OR
Bachelor's Degree in any discipline with 45% marks and studied physical education as compulsory elective subjects;

OR

Bachelor's Degree with 45% marks and having participated in National / Inter University / State competitions or secured 1st, 2nd or 3rd position in Inter College / Inter-Zonal / District / School competition in sports and games as recognized by the AIU/ IOA/SGFI/Govt. of India;

OR

Bachelor's degree with participation in International competitions or secured 1st, 2nd or 3rd position in National / Inter-University competition in sports and games as recognized by respective federations / AIU/ IOA/SGFI/Govt. of India;

OR

Graduation with 45% marks and at least three Years of teaching experience (for deputed in-service candidates i.e. Trained Physical Education Teachers / Coaches)

- b) The relaxation in the percentage of marks in the qualifying examination and in the reservation of seats for SC/ST/BC/PwD and other categories shall be as per the rules of the Central Government / State Government, whichever is applicable.
- c) Any other qualification recognized by the Syndicate as equivalent to above points.

Scheme of Test

The Entrance Test of 1 hour 30 minutes duration **shall** comprise one paper of 75 marks containing 75 Objective Type questions of multiple choices (having four responses A, B, C & D) carrying one mark each. Questions will be based on the following three areas of Physical Education and Sports: (a) Aptitude (b) General Knowledge (c) Reasoning Ability

M.Sc.in Biophysics, Biotechnology, Biochemistry, Botany, Chemistry, Mathematics, Physics, Physics (Specialization in Electronics), Zoology and Geology

Important Note: Under the Choice-Based Credit System obtaining 24 credits in a Generic Elective Course (Subject) in the full B.Sc (Hons.) course shall also be deemed sufficient to satisfy a requirement for admission to the M.Sc. course in the concerned subject. However, the candidate has to fulfill other requirements as mentioned for respective M.Sc. Courses under the framework of Honours School System.

Eligibility Conditions

B.A./ B. Sc. (Pass or Hons.) examination with 50% marks (45% marks in case of SC/ST/BC/PwD) of the Panjab University or any other examination recognized by the Panjab University as equivalent thereto with the subject desirous of seeking admission in M.Sc. Course as an elective subject for three Years.

For Entrance Test to **M. Sc. (Mathematics) under the framework of Honours School System:-** B.A. / B. Sc. (General) with 50% marks (45% marks in case of SC/ST/BC/PwD) Mathematics as a major subject or B.A/B.Sc. with Hons. 50% marks in Mathematics of P.U. or any other Universities as recognized by the Panjab University as equivalent thereto or B.Sc. (Hons.) in any subject under CBCS with 24 Credits in Mathematics as Generic Elective subject. The candidates who are already students of Panjab University Teaching Department and have passed/appeared/appearing in the B.Sc. (Hons.) final examination of the University during the current session in the relevant subject are not required to appear in the **M.Sc. Admission Entrance Test**. Their admission to the course shall be governed by the relevant rules and regulations of the University.

For M.Sc. (Physics) under the framework of Honours School System:- B.Sc. (Pass) or B.Sc. (Hons.) Physics examination of P.U. with Physics and Mathematics as elective subjects, or any other examination recognized as equivalent thereto with 50% marks; OR B.Sc. (Hons.) in Physics under Choice-based Credit System (CBCS) with 50% marks; Or B.Sc. (Hons.) in any subject under Choice-based Credit System with 24 credits in Physics as Generic Elective (GE) subject and Mathematics as Major / GE subject with 50% marks.

For M.Sc. Physics (Specialization in Electronics) under the framework of Honours School System:- B.Sc. (Pass) or B.Sc. (Hons.) Physics examination of P.U. with Physics and Mathematics as elective subjects, or any other examination recognized as equivalent thereto with 50% marks; or B.Sc. (Hons.) in Physics under Choice-based credit system (CBCS) with 50% marks; Or B.Sc. (Hons.) in any subject under Choice-based credit system with 24 credits in Physics as Generic Elective (GE) subject and Mathematics as Major/GE subject with 50% marks Or B.Sc. (Hons.) Electronics, Or B.Tech./B.E. (Electronics / Electrical/Mechanical or equivalent) with 50% marks.

For M.Sc. (Biophysics) under the framework of Honours School System:- B.Sc.(Hons.) in Biophysics, Panjab University, Chandigarh or any other University considered equivalent. Bachelor of Science in any other subject (such as B.Sc. Medical, Non-medical, Biotechnology, Bioinformatics, etc.). Students who have passed B.Sc. (Hons.) in Biophysics from Panjab University, Chandigarh will be directly promoted to M.Sc. (Hons.) in Biophysics. However, all other applicants need to qualify the CET-PG in Biophysics conducted by the Panjab University, Chandigarh.

For M.Sc. (Chemistry) under the framework of Honours School System:- Passed B.Sc. (Hons.) in Chemistry from department of Chemistry, P.U. ii) B.Sc. (Pass or Hons.) examination with 50% marks from PU or any other University recognized as equivalent thereto with (a) Chemistry in all the three years/six semesters and (b) any

two science subjects during two years/four semesters during graduation. Iii) B.Sc. (Hons.) in any subject under Choice-based Credit System with 24 Credits in Chemistry as Generic Elective Subject.

For M.Sc. (Biotechnology) under the framework of Honours School System: B.Sc. Biotechnology with 50% marks or B.Sc. (50% marks) with Biotechnology as Elective/Vocational subject (studied for 3 Years) are eligible.

For M.Sc. (Geology) under the framework of Honours School System: B.Sc. 3 year's course with Geology as one of the subjects with 50% marks in B.Sc. & 50% marks in subject of Geology in B.Sc.

For M.Sc. (Biochemistry) under the framework of Honours School System:-B.Sc. (Hons.) Biochemistry or its equivalent exam OR B.Sc. (Pass or Hons.) exam with 50% marks, recognized as equivalent by Panjab University with Biochemistry as one of the subjects every year of the B.Sc. Course.

Note: B.Sc. (MLT) Course has not been made equivalent to B.Sc. (Hons.) Biochemistry of Panjab University.

Scheme of Test

The question paper will be on the concerned subject for which the admission to M.Sc. (Hons.) is being sought by the candidate. It will consist of 75 Objective Type Questions (Multiple Choice with four responses i.e. A, B, C & D) carrying a total of 75 marks. The question paper will be of 1 hour 30 minutes duration. The standard of the question paper shall be based on latest syllabus prescribed for Bachelor's degree of Panjab University (1st, 2nd and 3rd Year together) in the relevant subject.

M.Sc. (Computer Science) under the framework of Honours School System

Eligibility Conditions

BCA/B.Sc. (Hons.) in Computer Science/ B. Tech. / B.E. (Computer Science/ Engineering) or any other examination recognized as equivalent thereto with 50% marks (5% concessional is admissible in eligibility requirement to SC/ST/BC/PwD candidates).

Scheme of Test

The Entrance Test will be of 75 marks. It will be of 1 hour 30 minutes duration consisting of 75 multiple choice questions of Computer Science subject at the level of examinations as mentioned in the eligibility conditions.

M.Sc. (Environment Science) (Two-Year Course)

Eligibility Conditions

Bachelor's Degree with minimum 50% marks in aggregate from any Science/ Engineering Stream or any other stream with Honours in Geography as one of the subjects from P.U. or any other recognized University.

Scheme of Test

The Entrance Test will be of 1 hour 30 minutes duration. It shall comprise 75 multiple-choice questions (with only one right answer) of one mark each from the Botany, Chemistry, Geography, Geology, Mathematics, Physics, Sociology, Statistics, Zoology and General Awareness subjects of graduation level. It shall attempt to test the intelligence, comprehension of the scientific principles and general knowledge expected of a science graduate.

M.Sc. (Human Genomics) (Two-Year Course)

Eligibility Conditions

B. Sc. (Pass or Honours) under 10+2+3 pattern examination of the Panjab University or any other examination recognized by the Panjab University as equivalent thereto in Physical, Chemical, Biological, Pharmaceutical Sciences or Medicine with at least 55% marks.

Scheme of Test

The Entrance Test will be of 75 marks. It will be of 1 hour 30 minutes duration consisting of 75 multiple choice questions (with only one correct answer) of 1 Mark each from six disciplines representing Physics, Chemistry, Mathematics, Biology, Pharmaceutical Sciences and Medicine.

M.Sc. (Nuclear Medicine) (Two-Year Course)

Eligibility Conditions

Minimum qualification for admission to M.Sc. first Year in Nuclear Medicine shall be B.Sc. degree with at least 50% marks in Nuclear Medicine or Biophysics from a recognized university or B.Sc. degree with at least 50% marks from a recognized University with Physics and Chemistry as core subjects (Non-Medical stream) or Chemistry and Zoology / Biotechnology as core subjects (Medical stream).

Candidates with B.Sc. degree in X-Ray / Medical Technology, B.Sc. through correspondence and open University stream are not eligible.

M.Sc. (System Biology and Bioinformatics) (Two-Year Course)

Eligibility Conditions

Bachelor's degree in Science (General or Hons.) with Bioinformatics, Biotechnology, Biochemistry, Biology, Botany, Chemistry, Electronics, Genetics, Life Science, Mathematics, Mathematics & Computing, Microbiology, Physics, Statistics, Zoology, Agriculture, Computer Science, Engineering, Medicine, Pharmacy and Veterinary Science with at least 50% marks (45% for candidates belonging to SC/ST/BC/PwD category).

Scheme of Test

The question paper will consist of 75 objective type questions (Multiple choice with four responses i.e. A, B, C & D) carrying a total of 75 marks. The question paper will be of 1 hour 30 minutes duration. The syllabi and standard for the question paper shall be the one as currently prescribed for Bachelor's Degree of Panjab University (1st, 2nd and 3rd Year together).

M. Sc. (Microbial Biotechnology) (Two- Year Course)

Eligibility Conditions

Candidates having Bachelors Degree in any field of Biological Sciences including Biotechnology are eligible.

Scheme of Test

The Entrance Test will be of 1 hour 30 minutes duration. It shall comprise 75 multiple-choice questions (with only one right answer) of one mark each. The questions will be based on fundamentals of Microbiology and Biotechnology.

M. Sc. (Medical Physics) (Two- Year Course)

Eligibility Conditions

Admission to M.Sc. Course in Medical Physics will be B.Sc. (Regular course) first class with Physics as core subject (studied for three Years) and Mathematics as one of the subjects (studied for minimum two Years) from a recognized university. The candidates who studied B.Sc. through correspondence and open university stream are not eligible.

Course duration is 3 Years (2 Years teaching + 1 Year internship).

The Entrance Test for Physics, Physics (Specialization in Electronics) and Medical Physics will be common.

M. Sc. (Forensic Science & Criminology) (Two- Year Course)

B.Sc./ B.Sc. Honours degree in Forensic Science or any other graduation degree 3/4/5 Year duration in the Faculty of Science, Engineering, Medical / Dental and Pharmaceutical Science of Panjab University or any other University recognized by Panjab University with minimum 50% marks.

Admission to M.Sc. Forensic Science & Criminology shall be through P.U.- CET (P.G.) conducted by Panjab University. The admission will be on merit, based upon the marks obtained in PU-CET (P.G.) and marks obtained at undergraduate degree along with admissible weightage as per University Rules.

Format for Entrance Test for M.Sc. Forensic Science & Criminology:

The question paper will comprise of Section A and Section B carrying a total of 70 marks. The question paper will be of 90 minutes duration. Section A will have 20 questions of General Sciences at 10+2 level to test the knowledge of fundamentals. Section B will have four sub-sections namely, *Biology*, *Chemistry*, *Forensic Science* and *Physics* with 25 questions each from graduation level. The candidate has to select ANY TWO of the four sub-sections from Section B for answering questions.

M. Sc. (Statistics) (Two- Year Course)

B.A./ B.Sc. (General or Honours) with 50% marks in Math/Stat as major subject of Panjab University or any other University recognized by Panjab University as equivalent thereto.

OR

B.A./B.Sc. (General or Honours) under CBCS with 50% marks in GE Math/Stat of Panjab University or any other University recognized by Panjab University as equivalent thereto (as Per UGC/ PU General Guidelines).

Scheme of Test

The Entrance Test will be of 1 hour 30 minutes. It shall comprise of 75 multiple-choice questions (with only one right answer) carrying one mark each. The questions will be based upon two components:

Component	Number of Questions
Mathematics	50
Statistics	25

Test will be based on the following topics:

STATISTICS

Probability (upto Bayes' Theorem) One-dimensional random variable, three basic distributions (Binomial, Poisson, Normal). Correlation & Regression (bivariate). Simple Random Sampling.

MATHEMATICS

Matrix theory, Rank and Inverse of matrices, Vectors, Vector spaces, system of linear equations and their solutions, eigen values and eigen vectors, quadratic forms.

Differentiation 7 Integration (Single and double integrals). Limits and Continuity, Complex variables and their functions, De-Moivre's Theorem, Cauchy-Riemann Conditions, Cauchy Integral Theorem, Residue Theorem, contour integration. Reduction formulae, Sequences and their limits, Series. Trigonometry, Sets, sequences of sets and their limits. Differential Equations of first orders, Leibnitz's and Clairant differential equations, Linear Differential Equations.

M.Sc. (Two-Year Course) (In colleges only) Bioinformatics, Biotechnology, Botany, Physics, Chemistry, Zoology, System Biology and Bioinformatics

Eligibility for different courses

Bioinformatics / System Biology & Bioinformatics:

Bachelor's degree in Science (General or Hons.) with Bioinformatics, Biotechnology, Biochemistry, Biology, Botany, Chemistry, Electronics, Genetics, Life Science, Mathematics, Mathematics & computing, Microbiology, Physics, Statistics, Zoology, Agriculture, Computer Science, Engineering, Medicine, Pharmacy and Veterinary Science with at least 50% marks (45% for candidates belonging to SC/ST/BC/PwD category).

Biotechnology:

Bachelor's degree (under the 10+2+3 pattern of Education) in Physical, Biological, Pharmaceutical, Agricultural, Veterinary or Fishery Sciences or Bachelor's degree in Engineering/ Technology, Home Science, Medicine (MBBS) from any University/ Institute recognized by the Panjab University. The candidate must have obtained at least 55% marks at the Bachelor's degree level.

Botany:

B.Sc. pass with Botany having at least 50% marks in the aggregate from Panjab University or from any other University recognized by Panjab University Syndicate as equivalent thereto.

Physics:

- B. Sc. Hons. examination of the Panjab University in the subject of M. Sc. Course
- B. Sc. Examination of the Panjab University or any other University recognized by Syndicate securing at least 50% marks in aggregate (45% marks in case of SC/ST/BC/PwD) and with Physics & Mathematics for M.Sc. Physics Course and with Chemistry & Mathematics for M. Sc. Chemistry course along with anyone of the following subjects:-
Biochemistry, Botany, Chemistry, Geology, Physics, Statistics, Zoology

Provided that a student who had not taken Mathematics as one of the subjects in B. Sc. Examination may be admitted to M.Sc. (2-Year Course) in Chemistry on the condition that he / she passes an additional paper in Mathematics (50 hour course) in the first Year examination securing at least 40% marks.

- Awarded B.Sc. Pass degree under the old B.Sc. Honours regulations by the Syndicate on the recommendation of the Board of Control:
- B.Sc. Honours examination in the subject of the M.Sc. From any other University recognized by the Syndicate as equivalent to (a);

Chemistry:

- a. B.Sc. examination of the Panjab University or any other University recognized by the Syndicate securing at least 50% marks in aggregate and with Chemistry for M.Sc. Chemistry course along with any Science subject.
Provided that the student who had not taken Mathematics as one of the subjects in B.Sc. examination may be admitted to M.Sc. (2Year course) in Chemistry on the condition that he/she passes an additional paper in Mathematics in the first Year examination securing at least 40% marks and the student who studied Mathematics as one of the subjects in B.Sc. Examination should pass additional paper in Biology in the first year examination securing at least 40% marks. .
- b. B.Sc. Pass Degree under the old B.Sc. Honours regulations awarded by the Syndicate on the recommendation of the Board of Control in the subject of M.Sc. course.
- c. B.Sc. examination with 50 per cent marks in aggregate from any other University recognized by the Syndicate as equivalent to (a).
- d. B.Sc. (Honours) examination of Panjab University or of any other University (recognized as equivalent thereto) in the subject of M.Sc. course.

Zoology:

B.Sc. with Zoology having at least 50% marks in the aggregate from Panjab University or from any other University recognized by the Syndicate as equivalent thereto.

Scheme of Tests for above courses

The scheme of the test for admission to M. Sc. (Two Year Courses) as given above offered at different colleges affiliated to Panjab University will be same as applicable for M. Sc. (Hons) in the respective subjects except Bioinformatics. The candidates may be admitted to M.Sc. (Hons.) at Panjab University Campus or affiliated colleges on the basis of final merit lists.

For M.Sc. Bioinformatics: The question paper will consists of 75 objective type questions (Multiple choice with four responses i.e. A, B, C & D) carrying a total of 75 marks. The question paper will be of 1 hour 30 minutes duration. The syllabi and standard for the question paper shall be the one as currently prescribed for Bachelor's Degree of Panjab University (1st, 2nd and 3rd Year together).

APPENDIX A

GUIDELINES FOR GENERAL / RESERVED CATEGORY/ ADDITIONAL/NRI SEATS

All these Guidelines in Appendix A, B and C are reproduced from “Handbook of Information”. Please see Handbook of Information-2021 for complete information and updates.

IMPORTANT NOTE:

Admission in all categories shall be made subject to fulfilment of the eligibility conditions and in accordance with the provisions contained in the Handbook of Information and Rules for Admission, 2021.

I. Seats: General and Reserved

- 1) 53.5% of the seats in each course shall be treated as belonging to the General Category.
- 2) 46.5% seats shall be treated as belonging to the Reserved Category, as per details given below:
 - (i) 15% for candidates belonging to the Scheduled Castes.
 - (ii) 7.5% for candidates belonging to the Scheduled Tribes.
 - (iii) 5% for candidates belonging to the Backward Classes

Provided that the reservation in (i) and (ii) can be inter-changeable, i.e. if sufficient number of applicants is not available to fill up the seats reserved for Scheduled Tribes, they may be filled up by suitable candidates from Scheduled Castes, and vice versa.

The above reservation shall be subject to the following conditions:

- a. the number of students admitted on merit of General Category shall not be included in the number of seats reserved;
 - b. members of Scheduled Castes / Scheduled Tribes/ Backward Classes shall be allowed a concession of 5% marks for admission to the courses in which a certain percentage of minimum marks has been prescribed provided they have obtained minimum pass marks prescribed by the regulations;
 - c. in case the seats earmarked for Scheduled Castes/Scheduled Tribes remains unfilled, a further relaxation in marks may be given, in order of merit inter-se amongst the candidates themselves, so that all the reserved seats are filled by candidates belonging to these categories; and
 - d. a Scheduled Caste/Scheduled Tribe person on migration from the State of his origin will not lose his status as Scheduled Caste / Scheduled Tribe but he/she will be entitled to the concessions/benefits admissible to the Scheduled Castes / Scheduled Tribes from the State of his origin and not from the State where he has migrated. [Regulation 29.1, P.U. Cal. Vol. 1, 2007 (Page 168)].
- (iv) 5% seats will be horizontally reserved for persons or class of Persons with Disability (PwD)* out of which 1% each shall be reserved for persons suffering from the disabilities specified under the RPWD 2016 Act:

A) Physical Disability

- a. Locomotor disability
 - i) Leprosy cured persons
 - ii) Cerebral palsy
 - iii) Dwarfism
 - iv) Muscular dystrophy
 - v) Acid attack victims
- b. Visual Impairment
 - i) Blindness
 - ii) Low Vision
- c. Hearing Impairment
 - i) Deaf
 - ii) Hard of Hearing
- d. Speech and language disability

B) Intellectual disability

- i) Specific learning disabilities
- ii) Autism spectrum disorder

* Claimant in this category should be capable of pursuing the course for which the admission is sought. The Persons with Benchmark Disability (as per section 2 (r) of the Rights of Persons with Disabilities [RPWD] Act 2016 should have a minimum of 40% disability duly certified by the Medical Board of District/State/UT/Medical Institution of National Importance. Such certificate shall be further certified by the Medical Board of the Panjab University Health Centre.

C) Mental behavior (Mental Illness)

D) Disability caused due to

- i. Chronic neurological conditions due to:
 - (i) Multiple sclerosis
 - (ii) Parkinson's disease
- ii. Blood Disorder
 - (i) Haemophilia
 - (ii) Thalassemia
 - (iii) Sickle Cell disease

E) Multiple Disabilities (Deaf Blindness)

F) Any other category as may be notified by the Central Government (the Schedule of RPWD Act 2016).

- a) If 5% of reservation of seats comes to 0.5 to 0.9, it shall be treated as one seat. However, if after calculating seats on the basis of 5%, the number of seats is divisible by 5, equal distribution of seats will be made for all the five categories. If after the division, any remainder is left, it shall be distributed on the basis of inter-se merit amongst all the five categories. If the seats after calculating on the basis of 5% comes to less than 5 it shall be distributed on the basis of inter-se merit amongst all the five categories.
- b) In the absence of availability of candidates in any of the categories, the seats shall be interchanged inter-se.
- c) If seats reserved for Persons with Bench mark Disabilities remained unfilled, these shall be treated in the sanctioned strength of seats for General Category.

Applicants under the Reserved Category of Persons with Bench mark Disabilities shall be allowed a relaxation of 5% marks for calculation of merit in seeking admission to the courses in which a certain percentage of minimum marks has been specified, provided they have obtained minimum pass marks prescribed by the University regulations.

The candidate under the Reserved Category of Persons with Bench mark Disabilities shall be allowed an upper age relaxation of 5 years for admission, in the courses wherever upper age restriction is applicable. A claimant who fraudulently avails or attempts to avail any benefit meant for persons with benchmark disability shall be punishable with imprisonment for a term which may extend to 2 years or with fine which may extend to one lakh rupees or with both.

- (v) 5% on the basis of achievement in Sports (see separate guidelines available at 57-66) .
- (vi) 5% for candidates belonging to Defence (for all the under-mentioned categories taken together) for candidates who fall in one of the following categories (which are given there in order of precedence) :-
 - 1. Son/Daughter/ Spouse of such Defence personnel and CAPF personnel¹ who died in action. (Only those who were wholly dependent on such personnel shall be considered).
 - 2. Son/Daughter/Spouse as are wholly dependent on such Defence Personnel and CAPF Personnel who were incapacitated²/died while in service.
 - 3. Defence and CAPF personnel who were incapacitated while in service.
 - 4. Son/daughter/spouse of ex-servicemen³ who are wholly dependent on them.
 - 5. Son/daughter/spouse of serving Defence personnel and CAPF who are wholly dependent on them.
 - 6. Ex-Servicemen
 - 7. Serving Defence personnel CAPF personnel

- 1. CAPF earlier known as Para-military forces, includes Assam Rifles (AR), Border Security Force (BSF), Central Industrial Security Force (CISF), Central Reserve Police Force (CRPF), Indo Tibetan Border Police (ITBP), National Security Guard (NSG), Sashastra Seema Bal (SSB) etc.
 - 2. Incapacitation will mean incapacitation leading to the discharge of the person by concerned authorities
 - 3. Ex-serviceman means a person who has served in any rank whether as a combatant or non-combatant in the regular Army, Navy and Air Force of the Union of India or in CAPF
 - i) Who retired from the service after earning his/her pension; or
 - ii) Who has been boarded out of the service on medical grounds attributable to military service/CAPF or Circumstances beyond his control and awarded medical or other disability pension; or
 - iii) Who has been released from the service as a result of reduction in establishment or
 - iv) Who has been released from the service after completing the specific period of engagement, (otherwise than at his own request, or by way of dismissal, or discharge on account of misconduct or inefficiency) and has been given gratuity.
- Territorial Army Personnel of the following categories shall also be considered as ex-servicemen:-
- (a) Pension holders for continuous embodied service.
 - (b) Disabled Territorial Army Personnel with disability attributable to military service.
 - (c) Gallantry award winners

For admission to evening courses, categories 2, 4 and 5 above will not be considered since the term 'wholly dependent' will exclude such persons as are 'employed' or 'self-employed'.

2% for Sons/ Daughters / Husband / Wife / Brothers / Sisters of persons killed/incapacitated in November, 1984 riots and of persons killed / incapacitated in terrorist violence in Punjab and Chandigarh. A Certificate from the District Magistrate to this effect must be submitted by the candidate. Migrant Card alone is not enough.

- (vii) 2% for the Children/Grand Children of Freedom Fighters who have been sanctioned pension by Central/State Govt. or awarded Tamra Patra by Government of India (Syndicate Para 15, dated 30-5-1997) or those who have been certified to be Freedom Fighters by the Central/State Govts.

(viii) Any other statutory reservation as prescribed by the Govt. of India, if any.

II. Additional Seats(Non –Convertible):-

(a) Wards of Kashmiri Migrants and Kashmiri Pandits/Kashmiri Hindu Families(Non- Migrants) living in Kashmiri Valley.

- (i) Relaxation in cut-off percentage upto 10% Subject to minimum eligibility requirement.
- (ii) Increase in intake capacity upto 5% course wise.
- (iii) Reservation of at least one seat in merit quota in technical/professional institutions.
- (iv) Waiving off domicile requirements.

Documents required:

- A candidate seeking admission against this seat is required to produce a certificate from an authorised Government Officer (i.e. Relief Commissioner / Deputy Commissioner of the concerned district / area) to the effect that the candidate is a ward of Kashmiri displaced person.
- Proof of current residence (such as Ration Card/ Photo Identity Card issued by the Election Commissioner / Driving License / Aadhaar Card / Passport etc.)
- The admission of a candidate against this category shall be provisional subject to verification of his / her above mentioned certificates by the competent authority.

(b) Wards of Martyrs/permanent disabled of Kargil War*.

Concession be given for admission to various courses in Educational Institutions up to academic year 2020-21 only to those wards of martyrs/permanent disabled (up to 80% leading to incapacitation) of Kargil war who have a valid certificate from the Ministry of Defence to this effect and the same be entered in the pension Book of the family:

1. 1% seats with minimum of 1 seat in the Departments and affiliated Colleges except in partially financed/self-financing courses.
2. Exemption in fee.
3. Exemption in hostel fee.

(c) One Girl Child out of the only two girl Children

1. Two additional seats per unit per course subject to maximum limit of four (4) out of the two girl children from the session 2015-16 are created for admission to a given course in the Panjab University Teaching Departments, Regional Centres and its affiliated Colleges provided they are otherwise eligible from all angles. The additional seats will be only for those girl Children who are either a single girl child of her parents or one amongst the only two girl Children with no male Child. The additional seat will be available to only one of the two girl children of a couple.

2. A certificate is to be obtained from the parents of the girl children declaring therein that the benefit of this scheme is being claimed for only One Girl Child out of the two girl Children and the parent shall not claim the same for the 2nd girl child elsewhere in future the specimen of the certificate is enclosed.

(d) Cancer/ AIDS / Thalassemia:

One additional seat each for the student suffers from Cancer / AIDS / Thalassemia has been allowed for admission in each course in the Panjab University Teaching Departments, Regional Centres and its affiliated Colleges subject to the condition that the candidate seeking admission under each of these categories if otherwise eligible from all angles. The claimant candidate will have to submit a certificate as a proof of from the National Medical Institute like PGI, AIIMS etc. in support of his/her claim.

(e) Two Additional Seats for Rural Area Students

Only those candidates will be considered in this category, who have passed their Matriculation and +2 examination from those rural schools that do not fall in the area of the Municipal Corporation/Municipal Committee/ Small Town/Notified Area/Cantonment Area. A candidate claiming such benefit will have to produce a certificate from the D.E.O./Principal of the concerned institute of the area certifying that the school from where the candidate has passed the Matriculation and +2 examination, falls within the aforesaid rural area.

(f) One Additional seat for Border Area Students

The Border area students shall mean those candidates who have passed their Matriculation examination from the Border Area Schools situated within 20 kilometres from the International Border. A candidate claiming such benefit will have to produce a certificate from the Tehsildar or the Principal/Headmaster/Head of the School certifying that the School from where the candidate has passed the matriculation and +2 examination, falls within the aforesaid Border area.

* Subject to the approval of the Competent Authority.

(g) One Additional Seat for Youth Festival

In all the teaching courses (except the courses governed by AICTE / NCTE / BCI / MCI / DCI etc.) being run in the Panjab University Campus including constituent colleges / regional centres / affiliated colleges, one additional seat is reserved per unit for those candidates who have excelled and outperformed by their participation in the Youth Festivals. The candidate availing the aforesaid facility must fulfill the eligibility condition for admission to the particular course. For those courses to which the admission is to be done on the basis of entrance test, the candidate must have passed the entrance test. The selection of such candidates for admission to various courses at PU Campus/ regional centres / constituent colleges / affiliated colleges, will be made by the respective admission committees. For recommending admission on the basis of youth festival participation, admission criterion will be fixed on the basis of merit as mentioned below and upon the verification of the original certificates of those candidate, who :

- (A) have presented an item in an international cultural festival approved by Punjab Govt. /Govt. of India / Panjab University.
 - (B) have got distinction in All India National Inter University Youth Festival organized by AIU / Govt. of India
 - (C) have got distinction in North Zone Inter University Youth Festival organized by AIU.
 - (D) have secured first/second/third position in Inter University Youth Festival organized by Govt. of Punjab/ any State or Central University.
 - (E) have secured first/second / third position in Panjab University Inter Zonal Festival.
 - (F) have secured first /second /third position in Panjab University Zonal festival
 - (G) have secured first/second/ third position in state level competition of State School Education Board of Punjab/ Haryana / HP/ or CBSE/ICSE or any other recognised board
- ❖ Category A is considered as highest category followed by B, C onwards.
 - ❖ Preference will be given to the candidate who represented Panjab University Chandigarh in A, B, C and D category
 - ❖ Achievement(s) only during the preceding 3 years of the year of the admission will be considered
- In case two or more candidate have equal position at equal level then :
- i. Position secured in an individual item shall be rated higher as compared to as a team.
 - ii. The eligibility of the candidate for participation in university youth festivals, in future, may also be considered.
 - iii. Academic record may be considered in case of tie between two or more candidate.

In case of any ambiguity, the related certificates be got verified from the Department of Youth Welfare through the concerned Chairperson / Principal / Head etc.

The candidate admitted on the basis of youth festival additional quota seats shall have to give an assurance to the university authorities that during the duration of the course the candidate will participate in the activities associated with his item and will not create any kind of indiscipline. The admission committee will assess the participation of the candidate and in case the candidate does not fulfill the requirements, his admission may be cancelled. However, exemption can be given because of a special reason like sickness or any other unavoidable reason in inter varisty Youth Festivals, National Festivals and International Festivals.

(h) Categorization of International/NRI Students

A foreign national may seek admission in any of the courses being offered by the University through the International Students Office under any of the following categories:

- i) Candidates with nomination / sponsorship by any foreign State, Embassy or authority in India under a Study in India / Exchange Programme, etc.
- ii) Foreign nationals or their wards who are self-financed students (not seeking admission through a mode as mentioned in (i) above).
- iii) Non- resident Indians or their Wards (not seeking admission through a mode as mentioned in (i) above).

The definition of the terms, "Foreign Nationals, Non-resident Indians and Wards" be considered as under:-

1. **Foreign Nationals:** Foreign Nationals holding passports issued by foreign countries including people of Indian origin who have acquired the nationality of foreign countries are included as foreign students. Provided any subsequent changes in the definition as may be notified by the Government of India shall have the same latest meaning respectively assigned to them. The other expressions not defined herein shall have the meaning as may be assigned in any subsequent notification of the Government of India.
2. **Non-resident Indians:** A person shall be deemed to be Non-resident Indian for seeking admission in Panjab University if he/she fulfils the criterion (as amended from time to time) for status of NRI under Income Tax Act, 1961, in the year in which he/she seeks admission in Panjab University.
As per Income Tax Act, 1961 the present criterion for determination of status of NRI is as follows:-
'Non-resident Indian' is an individual who is a citizen of India or a person of Indian origin and who is not a resident of India. Thus, in order to determine whether an Individual is a non-resident Indian or not, his residential status is required to be determined under Section 6. As per Section 6 of the Income-tax Act, an individual is said to be non-resident in India if he is not a resident in India and an individual is deemed to be resident in India in any previous year if he satisfies any of the following conditions:-
 - (i) If he is in India for a period of 182 days or more during the previous year; or
 - (ii) If he is in India for a period of 60 days or more during the previous year and 365 days or more during 4 years immediately preceding the previous year.However, condition No. (ii) does not apply where an individual being citizen of India or a person of Indian origin, who being outside India, comes on a visit to India during the previous year.
A person shall be deemed to be of Indian origin if he, or either of his parents or any of his parents or any of his grand - parents, was born in undivided India.

- 3. Wards of Foreign Nationals and NRIs:** A student who seeks admission as a ward of Foreign National or Non-resident Indian should be in a first degree blood relationship with foreign national or Non-resident Indian. The term first degree blood relationship includes:
- (a) spouse
 - (b) children (natural/adopted/foster)
 - (c) real brother and sister of father, i.e. real uncle and real aunt
 - (d) real brother and sister of mother, i.e. real maternal uncle and maternal aunt
 - (e) father and mother of father, i.e. grandfather and grandmother
 - (f) father and mother of mother, i.e. maternal grandfather and maternal grandmother
 - (g) first degree-paternal and maternal cousins.

Eligibility and Admission Criterion:

- (i) The students who will be admitted in a course against the NRI quota should have the basic qualification fixed by the respective regulatory body, i.e., Medical Council / Dental Council / Bar Council of India / Pharmacy Council of India for admission in Medical / Dental / Law graduate / post graduate courses. The Rules of respective Regulatory Bodies shall apply as amended from time to time.
- (ii) NRI candidates seeking admission to any course will be required to produce the Test Scores of Scholastic Aptitude Test-II (SAT-II) with permissible combination of subjects, conducted by the Education Testing Service, Princeton, U.S.A., for admission to under graduate courses; Graduate Record Examination (General) (GRE) from Princeton, U.S.A., or GMAT for admission to Post Graduate Courses. In the case of foreign nationals (non-English speaking countries), TOEFL/IELTS Scores should also be produced. However, those who have passed the qualifying examination from India, shall qualify the entrance test conducted for the said course(s) or meet the eligibility requirement of the said course, to be eligible for admission.

For M.Pharm. Degree, non GPAT candidates with 55% marks in B.Pharm. is also eligible.

- (iii) Admission to all Engineering courses against NRI quota in the University Institute of Engineering & Technology (UIET), University Institute of Chemical Engineering & Technology (UICET) and P.U. Regional Centre, Hoshiarpur shall also be admissible through Direct Admissions Students Abroad (DASA) w.e.f. the academic session 2018-2019.
- (iv) For admission University School of open learning USOL: Foreign Nationals working in the foreign missions in India and their dependents residing with them, subject to the condition that before submitting their Admission cum Examination Form, they are required to obtain Eligibility Certificate from the Registrar, Panjab University. Foreign students who have passed B.A. / B.Com Part-I Examination from this University, shall be allowed to complete the remaining parts of these courses through USOL even while staying in their respective countries, subject to the number of chances available in the respective examinations as provided in the Regulations.
- (v) NRI candidates shall compete amongst themselves for admission to various courses. Their inter-se merit shall be determined on the basis of the score obtained in SAT-II, GRE, GMAT etc.
- (vi) A candidate once admitted as NRI candidate in a Undergraduate course shall be covered under the definition of NRI for subsequent admission to any course at Panjab University.
- (vii) Candidates who take admission under the NRI quota and are promoted from Undergraduate to Postgraduate course in the Hons. School framework (ongoing program) shall not be allowed to change their category.
- (viii) A candidate admitted under NRI quota may change his/her admission to a vacant seat provided the candidate falls within the merit of admitted candidates in General or Reserve Category and has also applied for the same.
- (ix) NRI candidates shall have to comply with any other requirements prescribed by the Govt. of India and Panjab University from time to time.
- (x) For admission to B.P.Ed. and M.P.Ed. (Physical Education), a candidate will be required to undergo mandatory Physical Efficiency Test. The scores of Physical Efficiency Test will be counted for determining merit.
- (xi) Foreign Nationals and NRI candidates shall provide the following certificates / documents:-
 - a) The Foreign Nationals and NRI students wishing to join any of the University Teaching Departments at Panjab University for the first time are required to obtain an eligibility certificate from the Deputy Registrar (General), Panjab University, Chandigarh or Academic certificates of passing the qualifying or equivalent examination approved by the Association of Indian Universities (AIU) / Commonwealth Universities / International Association of Universities (IAU) as equivalent to the corresponding Indian Degrees/ Certificates.
 - b) Test Score of Scholastic Aptitude Test II (SAT-II)/ GRE/GMAT/TOEFL/IELTS etc. (if the qualifying examination is not passed from India).
 - c) The foreign students admitted are required to fill up Foreign Student Information system (FSIS) Form complete in all respects, along with copies of passport and Visa and submit to the office of Dean International Students, Panjab University, Chandigarh. This form is an urgent requirement of the Foreign Registration Office (FRO), Sector-9, Chandigarh and the candidate has to report to the Foreign Registration Office (FRO) within fourteen days of arrival in Chandigarh, with the number generated after the online submission of this form. Foreign Students Information System (FSIS) is to be submitted by hand by the candidate and the FSIS No. will be issued by this Office personally to the students.

- d) Foreign Students Welfare Fee @Rs.1500/- per student. Each NRI/Foreign Student is required to submit the same in cash, which may be deposited with the 'Extension Counter, State Bank of India, Administrative Block, Panjab University, Chandigarh. Original Receipts of the fee deposited is to be submitted to the office of the Dean International Students along with Registration Form (To be submitted after Confirmation of Admission).
- (xii) The seats of Foreign Nationals and NRI are "Inter-Changeable". That is, if sufficient number of eligible candidates are not available to fill up the seats of NRI, seats may be filled up from among the eligible candidates belonging to Foreign Nationals, and vice-versa. The conversion of seats shall be done after second counselling for NRI / Foreign National or after exhausting the waiting list of NRI / Foreign Nationals. In case, the number of eligible Foreign Nationals seeking admission exceeds the number of seats available, the Vice-Chancellor, Panjab University may be authorized to sanction additional seats to the Foreign Nationals only.
- (xiii) Candidates belonging to NRI (for all the under mentioned categories taken together) who fall in one of the following categories shall be admitted in the following order of precedence:
1. NRI candidates;
 2. Wards of NRI candidates;
 3. NRI candidates who have not appeared in the entrance Test. In case of regulatory body, if permitted by the said regulatory body;
 4. Wards of NRI candidates who have not appeared in the entrance Test. In case of regulatory body, if permitted by the said regulatory body;
- (xiv) Foreign Nationals/NRI candidates seeking admission to the concerned course are required to compete amongst themselves for the seats for them by appearing in the Entrance Test (wherever applicable) if they are in India, i.e., those living abroad at the time of entrance test will be exempted from the entrance test. However, those who have passed the qualifying examination from India, will not be exempted from the Entrance Test.

NOTE:

Specimen of forms of certificates to be attached to admission forms wherever applicable has been provided in the prospectus (pp. 37-56)

While working out the percentage of seats in the reserved categories, if the number arrived at contains a fraction, this shall be resolved as follows:

If the fraction is 0.5 or more, it shall be rounded off to 1; if it is less than 0.5, it shall be ignored. This shall, however, not affect the total number of seats in the open category. To ensure this, if the total number of seats after making this adjustment exceeds the prescribed number fixed for the course, the necessary additional seats shall be created with the prior permission of the D.U.I./Vice-Chancellor. Such seats, if created, shall be treated as additional only for the year in question.

Illustration: In a course which has 35 seats, the distribution of seats among the various categories will be as under:

General	SC	ST	BC	Sports	Defence	Persons with Disability	Riot/Terrorist Victim	Freedom Fighter	Total
53.5%	15%	7.5%	5%	5%	5%	5%	2%	2%	
19	5	3	2	2	2	2	1	1	37

It will be seen that this raises the total number of seats to 37. The 36th and 37th seat will be treated as additional in that course for that year only. The additional seat, if required to be created, shall be created only for the reserved category and not for the Open category. Such additional seat, if remains unfilled, will not be converted to open category.

Inter-Changeability and transfer of seats

- a) In the Reserved categories given at (i) and (ii) under **Paragraph I (Seats: General and Reserved at Page 31)**, i.e. Scheduled Castes and Scheduled Tribes, the seats shall be regarded as 'interchangeable'. That is to say, if sufficient number of eligible candidates are not available to fill up the seats reserved for Scheduled Tribes, seats may be filled up from among the eligible candidates belonging to Scheduled Castes and vice-versa.
- b) The seats in the Reserved Categories (SC/ST/BC/SP/Def/PwD/TV/FF) which remain unfilled shall be transferred to the General Category subject to the condition that the waiting list of each Reserved Category has been exhausted. Any seat created in the Reserved Categories because of rounding off fraction shall stand cancelled and shall not be converted to General Category.

Note: The Departments where admission is based on Entrance Test/ Aptitude Test, seats in reserved categories be converted in the General Category right from the beginning of admission in case there were no candidate belonging to these categories having qualified the Entrance Test were available.

- c) If a candidate gets admitted under Reserved Category and is also placed on the consolidated waiting list of General Category and gets a General Category seat on merit, the seat shall be offered to him/her (subject to the condition that the candidate of SC/ST/BC/PwD categories fulfill the minimum eligibility requirement of General Category and must not have availed of relaxation in eligibility marks) and his/her Reserved Category seat shall fall vacant and shall be offered in order of merit to the next candidate of the Reserved Category.

APPENDIX B

Specimen of Certificates for reserved categories and additional seats (To be attached to admission form wherever applicable)

SUB APPENDIX B1 **SCHEDULED CASTE / SCHEDULED TRIBE CERTIFICATE**

The Caste/Tribe Certificate should necessarily contain the following information about:

- (a) Name of the person : _____
- (b) Father's name : _____
- (c) Permanent place of residence : _____
- (d) Name of the Caste/ Tribe : _____
- (e) Constitutional order under which the caste/ tribe has been notified
- (f) Signature of issuing authority along with the designation, seals and date

Authorities Empowered to issue SC/ST certificate

1. District Magistrate/ Additional District Magistrate/ Collector/Deputy Commissioner/ Additional Deputy Commissioner/ Deputy Collector/1st Class Stipendiary Magistrate/ Sub-Divisional Magistrate/ Taluka Magistrate/ Executive Magistrate/ Extra Assistant Commissioner.
2. Chief Presidency Magistrate/ Additional Chief Presidency Magistrate/ Presidency Magistrate.
3. Revenue Officer not below the rank of Tehsildar.
4. Sub-Divisional Officer of the area where the candidate and/or his/her family normally resides.
5. Administrator/ Secretary to Administrator/ Development Officer (Lakshdweep Islands)

Attach
Applicants
Recent
Passport Size
Attested
Photograph

SUB APPENDIX B2
CERTIFICATE FOR BACKWARD CLASS*
(Persons belonging to OBC/SBC will not be considered under this category)

This is to certify that Shri / Smt/ Kumari _____ son/daughter of Sh. _____ village _____ District / Division _____ in the state of _____ belongs to _____ community which is recognized as a Backward Class under the _____, Department of Welfare of SCs and BCs vide notification No. _____ dated _____ Shri / Smt/ Kumari _____ and / or his / her family ordinarily reside(s) in the _____ District / Division of the State of Punjab.

This is also to certify that he/she does not belong to the persons / sections (creamy Layer) mentioned in the column 3 of the Schedule to the Government of Punjab, Department of Welfare and SCs and BCs notification No. 1/41/93-RCI/ dated 17-01-1994, as amended vide Notification No. 1/41/93-RCI/1597 dated 17-08-2005, Notification No. 1/41/93-RCI/209 dated 24-02-2009 and notification No. 1/41/93-RCI/609 dated 24.10.2013.

Date of Issuance _____

Signature of Issuing Authority: _____

Space for Photograph

Designation _____

Date: _____

Place: _____

Note: The term "Ordinarily" used here will have same meaning as in Section 20 of Representative of People Act, 1950

Authorities Empowered to issue Backward Class Certificate	Criteria for Admission under this Category
1. Deputy Commissioner 2. Additional Deputy Commissioner 3. Sub Divisional Magistrate 4. Executive Magistrate 5. Tehsildar 6. Naib Tehsildar 7. Block Officer 8. District Revenue Officer	1. 5% Seats Reserved for persons belongs to this category 2. Candidate must belong to non-creamy layer as defined by the latest rules of Govt. Of India 3. * A BC Certificate issued by a competent authority in any format and on any date shall be accepted by PU. 4. Candidate whose certificate is older than one year from the date of issue must submit the self declaration as per Sub Appendix C2(A).

SUB APPENDIX B2 (A)

Self declaration Performa to be submitted by the person belonging to backward class category at the time of recruitment / admission

I _____ S/O, _____ D/O
_____ Resident _____ of
_____ Village / _____ Tehsil/ _____ City
_____ District _____ hereby declare that I
_____ belong to _____ caste and this caste
has been declared as backward class by State Government as per letter No. _____ dated
_____.

I hereby declare that, I do not come under Column-3 of the Schedule to the Government of Punjab, Department of Welfare of SCs and BCs notification No. 1/41/93-RC-1/459 dated 17.01.94 as amended vide notification No. 1/41/93-RCI/1597 dated 17-08-1005, notification No. 1/41/93-RCI/209 dated 04.02.2009 and notification No. 1/41/93-RCI/609 dated 24.10.2013.

Place: _____
Date: _____

Declarant

Verification:

I hereby declare that the above submitted information is correct as per my understanding and nothing has been concealed herein. I am well versed with the facts that I would be liable to face any punishment prescribed by law in case my above information is found to be false and the benefits granted to me (the applicant) will be withdrawn.

Place: _____
Date: _____

Declarant

SUB APPENDIX B 3
CERTIFICATE FOR ONLY GIRL CHILD/ ONE OUT OF TWO GIRL CHILDREN

I / We, _____ (father) and _____ (mother) of Miss _____ (full address to be given) resident of House No. _____ Street/Sector _____ Town / City/ Village _____ District/State _____ do hereby solemnly declare and affirm as under:—

1. That I am / we are citizens of India.
2. That Miss _____ born on _____ is our girl child.
3. That we have no male child.
4. That we have the following only two girls and none else :

(i) Name _____ (i) Name _____

(ii) Date of Birth _____ (ii) Date of Birth _____

5. That none of the above mentioned two girl children has obtained/availed the benefit granted under this category, in this University/Institute including its affiliated colleges.

Signature

(Father)

Signature

(Mother)

Place:

Dated:

NOTE: Who can apply under this category?

Single Girl Child

OR

One Girl Child out of only Two Girl Children*.

*Clarification: This Seat shall not be available for:-

- i) Those having three or more girl children.
- ii) Those having any male child.

SUB APPENDIX B4
CERTIFICATE FOR ADMISSION UNDER DEFENCE CATEGORY

Dispatch No. _____

Dated _____

Certified that _____ son/daughter/spouse of
_____ Rank _____ (if applicable) an applicant for admission to
_____ course(s) in the department
of _____ Panjab University, is

1. Son/Daughter/Spouse of such Defence and Central Armed Police Force (CAPF)* personnel who died in action on _____ during _____. (Only those who are wholly dependent on such personnel shall be considered).
2. Son/Daughter/Spouse who is wholly dependent on such Defence and CAPF personnel who were incapacitated/died on _____ while in service.
3. Defence and CAPF personnel who were incapacitated while in service.
4. Son/daughter/spouse of ex-servicemen who are wholly dependent on them.
5. Son/daughter/spouse of serving Defence personnel and CAPF who are wholly dependent on them.
6. Ex-servicemen.
7. Serving Defence personnel and CAPF personnel.

Name of the Certifying Officer

Designation _____

Signature of authorized Military/
Central Armed Police Forces Officer
(with official seal)

* CAPF earlier known as Para-military forces, includes Assam Rifles (AR), Border Security Force (BSF), Central Industrial Security Force (CISF), Central Reserve Police Force (CRPF), Indo Tibetan Border Police (ITBP), National Security Guard (NSG), Sashastra Seema Bal (SSB) etc.

SUB APPENDIX B5

CERTIFICATE BY THE CANDIDATE FROM BORDER AREA SCHOOL

Certified that Mr./Ms./Mx. _____ son / daughter of _____ Sh.
_____ and Smt. _____ resident of
_____ has passed the Matriculation from a school situated in border area.

It is further certified that Mr. / Ms. / Mx. _____ has studied in the
institution(s) that is situated within 20 kms from the International Border, as per date of joining and leaving school is
given below:-

	Name of School	Date of Joining	Date of leaving
1.	_____ _____	_____	_____
2.	_____ _____	_____	_____
3.	_____ _____	_____	_____
4.	_____ _____	_____	_____

Place:

Date :

Seal and Signature
(Tehsildar / Principal / Headmaster)

SUB APPENDIX B6

CERTIFICATE BY THE CANDIDATE FROM RURAL AREA SCHOOL

Certified that Mr./Ms./Mx. _____ son / daughter of _____ Sh.
_____ and Smt. _____ resident of
_____ has passed the Matriculation and +2 examination from Rural School (s)
that does not fall in the area of the Municipal Corporation / Municipal Committee / Small Town / Notified Area /
Cantonment Area. The date of joining and leaving school is given below:-

	Name of School	Date of Joining	Date of leaving
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Place:

Date :

Seal and Signature

(D.E.O. / Principal)

SUB APPENDIX B7

CERTIFICATE OF CHILDREN/GRANDCHILDREN OF FREEDOM FIGHTER

Despatch No: _____

Dated: _____

Certified that Mr./Ms./Mx. _____ (freedom fighter) son/daughter of
Shri _____ of Village _____ Post Office _____ Tehsil
_____ District _____ and Parent /Grand Parent of Mr./Ms./Mx.
_____ (Name of the Candidate), a bonafide political sufferer and has been drawing freedom
fighter's pension from _____ Treasury or has been awarded Tamar Patra for his/her political suffering.

Place:

Date:

*Deputy Commissioner

(with Seal of the Court)

* Certificate from no other than Deputy Commissioner will be accepted.

** In case the certificate is found to be false or incorrect, the candidate will be render himself/ herself liable for criminal prosecution.

APPENDIX C

Specimen of Forms/ certificates for Medical records FORMAT FOR MEDICAL RECORD

Name of the patient:

Age:

Sex:

Address:

Occupation:

Date of 1st visit:

Clinical note (summary) of the case:

Prov.: Diagnosis :

Investigations advised with reports:

Diagnosis after Investigation:

Advice:

Follow up

Date:

Observations:

Signature in full _____

Name of Treating Physician
(MBBS or above with Mobile #)

Important Note:- Under this category of Physically Challenged, persons only with Permanent Physical Disability (PPD) will be considered. Candidates with temporary physical disability will not be eligible for applying under this category.

Medical Examination Form

(The Medical Examination will be conducted by any Govt. Gazatted Officer/Medical Officer at BGJIH)
Items Nos. 1 to 8 below to be filled in by the candidate

1. Name of the candidate _____
2. Father's Name _____
3. Mother's Name _____
4. Date of Birth _____
5. Department (in which admission is being sought) _____
6. University Receipt for Medical Examination Fee
No. _____ Date _____ Rs. _____
7. Roll No. (allotted by the Department): _____
8. History of any previous or existing illness: Yes/No (If yes mention details)
 - I. Like Epilepsy (seizures), Hypertension, Bronchitis, Bronchial Asthma, Tuberculosis, Rheumatic Heart Disease, Diabetes etc : Yes/No
 - II. History of any operation/Surgery : Yes/No
 - III. History of any regular medication : Yes/No
 - IV. History of any kind of allergy : Yes/No

(Signature of the candidate to be
Attested by the chairman)

(Signature of the candidate in the
presence of the examining Doctor)

(Signature of the chairman with seal
of the department)

Medical Examination

- a) Pulse _____/min. Blood Pressure _____ mmHg (sitting)
- b) Vision (without glasses) Right _____ Left _____ Colour Vision _____
- c) Vision (with glasses) Right _____ Left _____
- A. Systemic Examination of CNS/Chest/ CVS/Abdomen/Limbs
- B. Recommendation of the examining physician if any

(Signature of the Medical Officer with seal and date)

**FORM OF CERTIFICATE RECOMMENDED FOR LEAVE OR EXTENSION OR
COMMUNICATION OF LEAVE AND FOR FITNESS**

Signature of patient _____
Or thumb impression _____

To be filled in by the applicant in the presence of the Government Medical Attendant or Medical Practitioner. (with qualifications-MBBS or above)

Identification marks:-

- a. _____
b. _____

I, Dr. _____ after careful examination of the case certify hereby that _____ whose signature is given above is suffering from _____ and I consider that a period of absence from duty of _____ with effect from _____ is absolutely necessary for the restoration of his health.

I, Dr. _____ after careful examination of the case certify hereby that _____ on restoration of health is now fit of join service.

Signature of Medical attendant
Registration No. _____
(MBBS or above with Mobile #)

Note:- The nature and probable duration of the illness should also be specified. This certificate must be accompanied by a brief resume of the case giving the nature of the illness, its symptoms, causes and duration

**COPY OF CERTIFICATE OF PERSONS WITH DISABILITY (PwD) CATEGORY FOR
APPLYING FOR ADMISSION**

(Detailed information is available at Ministry of Social Justice and Empowerment, Government of India website: www.socialjustice.nic.in as per PART-II Section 3, subsection (i) Notification as amended on 30th December, 2009 for persons with disability (Equal Opportunities and full participation Rules, 1996) (Copies of Form-I, Form-II, Form-III and Form-IV, attached).

Form-I

**APPLICATION FOR OBTAINING DISABILITY CERTIFICATE BY PERSONS
WITH DISABILITIES**

1. Name: (Surname) _____ (First name) _____
(Middle name) _____
2. Father's name: _____ Mother's name: _____
3. Date of Birth: (date) _____ / (month) _____ / (year) _____
4. Age at the time of application: _____ years
5. Sex: _____ Male/Female/Transgender
6. Address:
 - (a) Permanent address

 - (b) Current Address (i.e. for communication)

 - (c) Period since when residing at current address

7. Educational Status (Pl. tick as applicable)
 - I. Post Graduate
 - II. Graduate
 - III. Diploma
 - IV. Higher Secondary
 - V. High School
 - VI. Middle
 - VII. Primary
 - VIII. Non-literate
8. Occupation _____
9. Identification marks (i) _____ (ii) _____
10. Nature of disability: _____
11. Period since when disabled: From Birth/Since year _____
12. (i) Did you ever apply for issue of a disability certificate in the past _____ YES/NO
(ii) If yes, details:
 - a. Authority to whom and district in which applied

 - b. Result of application _____
13. Have you ever been issued a disability certificate in the past? If yes, please enclose a true copy.

Declaration: I hereby declare that all particulars stated above are true to the best of my knowledge and belief, and no material information has been concealed or misstated. I further, state that if any inaccuracy is detected in the application, I shall be liable to forfeiture of any benefits derived and other action as per law.

(Signature or left thumb impression of person with disability, or of his/her legal guardian in case of persons with mental retardation, autism, cerebral palsy and multiple disabilities)

Date:

Place:

Encl:

1. Proof of residence (Please tick as applicable)
 - a. ration card,
 - b. voter identity card,
 - c. driving license,
 - d. bank passbook,
 - e. PAN card,
 - f. Passport,

- g. Telephone, electricity, water and any other utility bill indicating the address of the Parent / Guardian.
 - h. A certificate of residence issued by a Panchayat, municipality, cantonment board, any gazette officer, or the concerned Patwari or Head Master of a Govt. school,
 - i. In case of an inmate of a residential institution for persons with disabilities, destitute, mentally ill, etc., a certificate of residence from the head of such institution.
4. Two recent passport size photographs

(For office use only)

Date:
Place:

Signature of issuing authority

Stamp

Form-II

Disability Certificate
(In cases of amputation or complete permanent paralysis of limbs
Or dwarfism and in case of blindness)

(NAME AND ADDRESS OF THE MEDICAL AUTHORITY ISSUING
THE CERTIFICATE)

Recent PP
Size Attested
Photograph
(showing face
only of the
person with
disability)

Certificate No. _____

Date: _____

This is to certify that I have carefully examined Shri/Smt./Kum. _____ son/wife/daughter of
Shri _____ Date of Birth (DD/MM/YY) _____ Age _____ years, male/female, Registration
No. _____ permanent resident of _____ House No. _____
Ward/Village/Street _____ Post Office _____, District _____,
State _____, whose photograph is affixed above, and am satisfied that:

(B) He/she is a case of:

- locomotor disability
- dwarfism
- blindness

(Please tick as applicable)

(B) the diagnosis in his/her case is _____

(C) He/She has _____ % (in figure) _____ percent (in words) permanent locomotor disability /
dwarfism / blindness in relation to his/her _____ (part of body) as per guidelines (.....
number and date of issue of the guidelines to be specified).

2. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate

Signature /Thumb
impression of the
person in whose favour
disability certificate is
issued

Signature and Seal of Authorised Signatory
of Notified Medical Authority

Form-III Disability Certificate

(In case of multiple disabilities)

(NAME AND ADDRESS OF THE MEDICAL AUTHORITY ISSUING THE CERTIFICATE)

Recent PP Size
Attested
Photograph
(showing face only
of the person with
disability)

Certificate No. _____

Date: _____

This is to certify that we have carefully examined Shri/Smt./Kum. _____ son/wife/daughter of Shri _____ Date of Birth (DD/MM/YY) _____ Age _____ years, male/female, Registration No. _____ permanent resident of House No. _____ Ward/Village/Street _____ Post Office _____, District _____, State _____, whose photograph is affixed above, and are satisfied that:

- (A) He/she is a case of Multiple Disability. His/her extent of permanent physical impairment/disability has been evaluated as per guidelines (..... Number and date of issue of the guidelines to be specified) for the disabilities ticked below, and shown against the relevant disability in the table below:

Sr. No.	Disability	Affected Part of Body	Diagnosis	Permanent physical impairment/mental disability (in %)
1.	Locomotor disability	@		
2.	Muscular Dystrophy			
3.	Leprosy Cured			
4.	Dwarfism			
5.	Cerebral Palsy			
6.	Acid attack Victim			
7.	Low vision	#		
8.	Blindness	Both Eyes		
9.	Deaf	£		
10.	Hard of Hearing			
11.	Speech and language disability			
12.	Intellectual disability	X		
13.	Specific Learning Disability			
14.	Autism Spectrum Disability			
15.	Mental-illness	X		
16.	Chronic Neurological conditions			
17.	Multiple sclerosis			
18.	Parkinson's disease			
19.	Haemophilia			
20.	Thalassemia			
21.	Sickle Cell disease			

- (B) In the Light of the above, his /her over all permanent physical impairment as per guidelines (..... number and date of issue of the guidelines to be specified), is as follows

In figures :- _____ percent

In words: _____ percent

2. This condition is progressive/non-progressive/likely to improve/not likely to improve.

3. Reassessment of disability is:

(i) not necessary.

Or

(ii) is recommended/after _____ years _____ months, and therefore, this certificate shall be valid till (DD / MM /YY) _____

@ - e.g. Left/Right/both arms/legs

- e.g. Single eye/both eyes

£ - e.g. Left/Right/both ears

4. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate
5. Signature and seal of the Medical Authority		
Nature of Document	Date of Issue	Details of authority issuing certificate

Signature /Thumb impression of the
person in whose favour disability
certificate is issued

Recent PP Size
Attested
Photograph
(showing face only
of the person with
disability)

Form-IV

Certificate of Disability (In cases other than those mentioned in Forms II and III)

(NAME AND ADDRESS OF THE MEDICAL AUTHORITY ISSUING THE CERTIFICATE)

Certificate No. _____

Date: _____

This is to certify that I have carefully examined Shri/Smt./Kum. _____ son/wife/daughter of
Shri _____ Date of Birth (DD/MM/YY) _____ Age _____ years, male/female, Registration
No. _____ permanent resident _____ of _____ House
No. _____ Ward/Village/Street _____
Post Office _____, District _____, State _____, whose photograph is affixed above,
and am satisfied that he/she is a case of _____ disability. His/her extent of percentage physical
impairment/disability has been evaluated as per guidelines (to be specified) and is shown against the relevant disability
in the table below:-

Sr. No.	Disability	Affected Part of Body	Diagnosis	Permanent physical impairment/mental disability (in %)
1.	Locomotor disability	@		
2.	Muscular Dystrophy			
3.	Leprosy Cured			
4.	Cerebral Palsy			
5.	Acid attack Victim			
6.	Low vision	#		
7.	Deaf	£		
8.	Hard of Hearing			
9.	Speech and language disability			
10.	Intellectual disability	X		
11.	Specific Learning Disability			
12.	Autism Spectrum Disability			
13.	Mental-illness	X		
14.	Chronic Neurological conditions			
15.	Multiple sclerosis			
16.	Parkinson's disease			
17.	Haemophilia			
18.	Thalassemia			
19.	Sickle Cell disease			

(Please strike out the disabilities which are not applicable)

2. The above condition is progressive/non-progressive/likely to improve/not likely to improve.

3. Reassessment of disability is:

(i) not necessary.

Or

(ii) is recommended/after _____ years _____ months, and therefore, this
certificate shall be valid till (DD / MM /YY) _____

@ - e.g. Left/Right/both arms/legs

- e.g. Single eye/both eyes

£ - e.g. Left/Right/both ears

4. The applicant has submitted the following document as proof of residence:-

Nature of Document **Date of Issue** **Details of authority issuing certificate**

(Authorised Signatory of notified Medical Authority)
(Name and Seal)

Countersigned

{Countersignature and seal of the CMO/Medical Superintendent/Head of Government Hospital, in case the certificate is issued by a medical authority who is not a government servant (with seal)}

Signature /Thumb
impression of the person
in whose favour disability
certificate is issued

Note: 1. "In case this certificate is issued by a medical authority who is not a government servant, it shall be valid only if countersigned by the Chief Medical Officer of the District"

Form-V

(intimation of rejection of Application for Certificate of Disability)

No. _____

Dated _____

To

(Name and address of applicant
For Certificate of Disability)

Sub: Rejection of Application for Certificate of Disability

Sir/Madam,

Please refer to your application dated _____ for issue of a Certificate of Disability for the following disability:

2. Pursuant to the above application, you have been examined by the undersigned / Medical Authority on _____, and I regret to inform that, for the reasons mentioned below, it is not possible to issue a Certificate of Disability in your favour:-

- (i)
- (ii)
- (iii)

3. In case you are aggrieved by the rejection of your application, you may represent to _____, requesting for review of this decision.

Yours faithfully,

(Authorized Signatory of the notified Medical Authority)
(Name and Seal)

Certificate for candidates applying under the reserved category for Cancer / Thalassemia / AIDS

**DETAILED ADDRESS OF ISSUING PHYSICIAN AND HOSPITAL
(Mention serial number and date with phone number and address)**

Photograph
to be attested
by the
Physician

This is to certify that Ms. / Mr. _____ (Name of the student), Date of Birth: _____
_____ C.R./OPD No. _____ D/o / S/o
_____ (complete address), is a diagnosed case of
_____ (Cancer / Thalassemia / AIDS)*. She/he is undergoing treatment for the
same under my care.

(Signature of the Patient)

Attested

(Signature of the Physician)

Name and address of the Physician _____

Stamp of the Physician

* Strike out whichever is not applicable.

APPENDIX D*

GUIDELINES FOR ADMISSION TO THE RESERVED CATEGORY OF SPORTS

**(Candidates are advised to visit website of Sports Department at
www.sports.puchd.ac.in)**

Five percent seats of the total number of seats in each course are reserved under this category. No benefit on the basis of sports shall be given to candidates who did not apply for the admission under reserved category of sports.

1. Each candidate applying for admission in this category shall, along with the Admission Form, will submit following documents to the concerned department and photocopy of one complete set of Admission Form, along with the all relevant documents after paging all the documents, will submit in the office of Campus Sports, (Gymnasium Building), P.U. Chandigarh before the last date of submission of form. The candidate has to submit the form complete in all respect within the stipulated date in the concerned department and in the Campus Sports Department.
 - a) Self-attested photocopies of sports certificates with photograph duly attested by the respective issuing authority (i.e. National Federation of Concerned game/ State Association/ Head of the Institution of last attended / self attested).
 - b) Self attested photocopies of Class 10th and Class 10+2 and Bachelor's Detailed Marks Certificates.
 - c) Undertaking of the sports achievements **(Annexure-I)** and attendance in sports grounds **(Annexure-II)**.
 - d) List of players of the team/ competitors of the concerned sports tournaments duly attested by the respective issuing authority / Head of the Institution of last attended/ downloaded from concerned official website.
2. The D.U.I. has the authority to cancel admission at any time, if it is found that the candidate has obtained such admission on the basis of a false certificate or incorrect statement/record.
3. Candidates seeking admission under Sports category will be considered for admission only in the games / events / sports which are included in the Olympic Games / Asian Games / Commonwealth games immediately preceding the year of admission. Along with the games included in the above said tournaments, four games namely Chess, Cricket, Kho-kho and Yoga will also be considered as eligible sports disciplines for admission under reserved category of Sports **(Annexure-III)**.
4. Reservation under Sports Category is meant only for those active sports-person¹ who would participate in the Campus, University, State, National, International level Sports Tournaments. Such students will be considered for admission only if:
 - i. Their achievement in sports relates to their activities in any of the three years immediately preceding the year of admission² (relaxable to 4 years in exceptional cases, on merit, for outstanding sportspersons³).
 - ii. They are otherwise also eligible for participation in Inter-College, Inter-University tournaments. Candidates applying for sports quota must also be eligible on the basis of age to participate in the Inter University Competitions representing Panjab University for the next one year of their course duration.
 - iii. The Candidate qualifies in the Sports trials i.e. General Fitness test and Skill & Game Performance Test in the concerned game. **Dates of the trails will be notified later on.** It is essential to qualify the General Fitness Test as per the norms laid in **(Annexure - IV)** for appearing in Skill & Game Performance Test and it is essential to qualify the Skill and Game

¹ Means a person attending the grounds regularly so as to appear himself for participation in the Inter-College and Inter-University Tournaments. However, his/her age fall within the age group which is eligible for participation in Inter-College/Inter-University Competition.

² Preceding three years means from 1st July 2018 to 30th June 2021.

³ Securing first three positions in All India University / Senior National Championships/ National Games / Participation in International Competition (competitions/ tournaments which are mentioned in Annexure V) at senior or junior level recognized by Competent Authority of the respective game as mentioned in Clause 14.

* Subject to the approval of the Competent Authority.

Performance test to be eligible for verification of original sports certificates for awarding marks. The Sports Merit will be prepared as per **Annexure – V**.

- iv. No document including Undertaking etc. will be accepted after the last date of submission of Admission Form by the Campus Sports Department. However, in case any sportsperson earns any achievement up to June 30, 2021, he/she may submit supplementary copy of the document to the Campus Sports Department along with additional Undertaking.
- v. Sports Participation in the same game in two different competitions in two different academic sessions (irrespective of the event) is essential for the candidates seeking admission under this category within the prescribed period of three years i.e. from 1st July 2018 to 30th June 2021. The merit for admission in the Sports Category will be purely on the basis of criteria given in **Annexure-V**. However, the minimum level of sports participation to be considered for supporting certificates will be Inter school / Inter College /Regional/ Cluster /District/ State Level Participations.
5. A committee constituted by the Vice-Chancellor shall prepare the sports merit of applicants applying under reserved category of Sports by screening the applications, conducting General Fitness Test, Skill & Game Performance Test and verifying the original Merit / Participation Sports Certificates of the applicants as per norms incorporated in **Annexure – V**. Only such applicants will be allowed to appear for the actual sports trials, whose application is found in conformity with the requirement/ qualifications mentioned in the Guidelines by the Campus sports Department. Candidates are to appear for sports trials in proper sports kit with all the original sports certificates and required academic certificates.
6. The Campus Sports Department, Panjab University shall take an undertaking (**Annexure-II**) from the candidates that they will attend the grounds regularly and must have 75% of attendance in the sports ground and would also participate in the Inter-College, Inter-University, State, National and International sports tournaments, if selected. Their admission would be liable to be cancelled if the terms of the undertaking thus given are not adhered to.
7. The order of precedence in the selection of candidates for admission will be as per **Annexure-V**.
 - i. Applicant securing higher marks in sports merit will be placed / given higher preference.
 - ii. If there is a tie within the same category, the tie shall be resolved by considering the 'academic merit' i.e. as per admission criteria of the concerned department and even then if there is tie, it will be resolved by the seniority in age i.e. date of birth of the candidate and such tie will be resolved by the concerned Department in which an applicant applied for admission.
8. Age category tournaments such as sub-junior, junior, youth, cadet etc. are vary from game to game. In this regard, P.U. Admission Committee for sports will take the decision whether the performance of the players fall under junior/ youth category as per age criteria mentioned in **Annexure - V**.
9. It is mandatory to participate actively in all sports competitions, if selected, and at least 75% attendance in Panjab University sports grounds is required to enable to sit in the examination for all the candidates admitted against reserved category of sports. The attendance certificates shall be issued by the Campus Sports Department in favour of each candidate whose attendance in sports grounds is at least 75% and admit card for examination shall be issued by the Chairperson only on the production of such a certificate.
10. When a candidate is required to abstain from the Department for participation in Inter College / Inter University / National / International / State Sports Tournaments, he/she shall give prior information to the Chairperson of the concerned Department.
11. If a candidate admitted under the reserved category of Sports, remains absent from the grounds for regular practice for a continuous period of seven days without leave, his/her names shall be struck off the rolls by the Chairperson of the concerned Department on the recommendation of the Director Physical Education & Sports, Panjab University, Chandigarh.
12. Deficiency of equal numbers of lectures (theory, practical, seminars and tutorials etc.) shall be condoned for sportspersons for attending Coaching Camps and participation in various tournaments i.e. Inter Hostel and Inter Department (Conducted by P.U. Campus Sports), Inter College, Inter District, State, Inter State, Inter University, National and International level tournament.

13. In case a candidate does not attend the grounds for practice or does not participate in the P.U. Campus Sports Activities including Campus Annual Athletic Meet, Inter College Competition, Inter University Tournaments on medical grounds, the Medical Certificate issued only by the University Chief Medical Officer will be accepted.

NOTE : In case a student remains present in the concerned Department for classes but absent in the grounds for sports then his/her Medical Certificate will not be accepted and his/her admission shall liable to be cancelled.

14. In case there is one association / federation or more than one association / federation in any game the sports certificates issued by those State Associations will be considered which are recognized by National Federation of the concerned game for State level tournaments. Further, for International/ Inter state and National level competitions, the certificates issued by only those National Federations of the concerned game will be considered which are duly recognized by Ministry of Youth Affairs and Sports India and the recognized National Federation of the concerned game must be recognized by International Federation of the concerned game for International tournament. In case of Cricket, BCCI will be the competent authority. For International level competitions, the certificates issued by those National Federation / International Sports Federation of the concerned game (e.g. FIBA, FIFA etc.) will be considered which are duly recognized by concerned Country's Olympic Association and Ministry of Sports. Such National Olympic Association should be duly recognized by International Olympic Committee.
15. Certificate on Letter head will not be considered in normal course. The Certificates of the concerned tournament must be signed by minimum two office bearers of concerned Association / Federation. However, if the certificates are not issued by some sports Organization / Association in a particular game, those cases will be looked after separately by the screening committee on the recommendation of Campus Sports Department.
16. The clause 4 (i) and (ii) will not be applicable for Arjuna Awardeee / Rajiv Khel Ratan Awardee / Padam Shree Awardee / Olympians in any game/sports with the condition that if such a candidate is successful in getting admission but barred for participation due to age bar then he/she will coach or groom a team of his expertise for at least five hours a week without seeking any remuneration.
17. The admission of students under reserved category of sports will be provisional until the verification of sports certificates from the concerned issuing authority.
18. No invitational / Memorial / Open /Prize Money League/ Ranking tournament will be considered for admission under reserved category of sports. Further, marks will not be given for tournament which are held more than once a year.
19. The sportspersons who have represented in the recognized competitions recognized by Ministry of Youth Affairs and Sports, Olympic Games by International Olympic Committee, World Championship / World Cup by International Sports Federations, Commonwealth Games by Commonwealth Games Federation, Asian Games by Olympic Council of Asia, Asian Championships by International Sports Federations, South Asian Federation Games (SAF) by South Asian Sports Council, Paralympic Games by International Paralympic Committee, World University Games By FISU/ Asian University Games / Championship by AUSF (Asian University Sports Federation), University games by AIU, National games and Championships by National Sports Federations of the concerned game recognized from Ministry of Youth Affairs & Sports or Ministry itself, State Level Games by recognized State Sports Associations/ State Directorate of Education / School Boards and Inter College by concerned University will only be eligible for admission under reserved category of sports in Panjab University, Chandigarh.

ANNEXURE-I

UNDERTAKING FOR ACHIEVEMENTS IN SPORTS

I, _____ (name), son/daughter of
Shri _____ (father's name), born on
_____ of _____
_____ (address) hereby solemnly declare and affirm as under:-

1. That as Sportsman/Sportswoman in _____ (name of discipline), I have represented the team(s) in the competition(s) on date(s) and also of named position(s) as indicated in the table below :-

Sr. No.	Sports Disciplines	Team Represented	Name of the competition & year	Venue/Date	Position Secured
1					
2					
3					

2. That the certificate(s) mentioned below are produced by me in support of the above are authentic:

- (i)
- (ii)
- (iii)

3. I understand that in case the information/documents supplied by me are found to be false, incorrect or forged, my admission will stand cancelled and I shall be liable for criminal action.

(Signature of the applicant)

ANNEXURE-II

UNDERTAKING FOR ATTENDANCE IN SPORTS GROUND

I, _____ son/daughter of _____ resident
of _____ do hereby declare as under :-

- (i) That I am seeking admission to the Department of _____ under the Sports Category.
- (ii) That in case I am admitted to the above said department I shall regularly attend the grounds for practice and I shall also participate in P.U. Campus Sports Activities including P.U. Campus Annual Athletic Meet/Inter-College/Inter-University/National/International Sports Tournament on behalf of the P.U. Campus and the Panjab University if selected.
- (iii) That in case I fail to regularly attend the Grounds for practice or fail to participate in the tournaments as and when required, my admission to the Department of _____ shall be liable to be cancelled.
- (iv) That in case my admission to the Deptt. of _____ is cancelled due to my failure to regularly attend the grounds for practice or to participate in the P.U. Campus Sports Activities (including Annual Athletic Meet) / Inter-University / National / International Sports Tournaments as may be required by the Campus Sports Department, Panjab University, Chandigarh. I shall have no claim on any account whatsoever against the Department or against the University.

(Signature of the applicant)

**LIST OF SPORTS DISCIPLINES ELIGIBLE FOR ADMISSION UNDER RESERVED
CATEGORY OF SPORTS**

Sports disciplines to be considered for admission under reserved category of sports will be based on the following conditions:-

- 1) The sports disciplines should also be part of proceeding Olympic / Asian Games / Commonwealth Games immediately preceding the year of admission.
- 2) **Apart from the above the following four sports disciplines are included based on popularity / indignity.**
 - a) Chess
 - b) Cricket
 - c) Kho-kho
 - d) Yoga

LIST OF GAMES

Sr. No.	Game	Sr. No.	Game
1	Aquatics (M & W)	23.	Roller Skating (M & W)
2	Archery (M & W)	24.	Rowing (M & W)
3	Athletics (M & W)	25.	Rugby (M & W)
4	Badminton (M & W)	26.	Sailing / Yachting (M & W)
5	Baseball (Men)	27.	Sepak Takraw (M & W)
6	Basket (M & W)	28.	Shooting (M & W)
7	Boxing (M & W)	29.	Soft Tennis (M & W)
8	Bridge (M & W)	30.	Soft Ball (Women)
9	Canoeing & Kayaking (M & W)	31.	Squash (M & W)
10	Cycling (M & W)	32.	Table Tennis (M & W)
11	Equestrian (M & W)	33.	Tennis (M & W)
12	Fencing (M & W)	34.	Triathlon (M & W)
13	Football (M & W)	35.	Volleyball (M & W)
14	Golf (M & W)	36.	Weight Lifting (M & W)
15	Gymnastic (M & W)	37.	Wrestling (M & W)
16	Handball (M & W)	38.	Wushu (M & W)
17	Hockey (M & W)	39.	Cricket (M & W)
18	Judo (M & W)	40.	Kho-Kho (M & W)
19	Karate (M & W)	41.	Chess (M & W)
20	Netball (Women)	42.	Yoga (M & W)
21	Kabaddi (M & W)	43.	Pencak Silat (M & W)
22	Taekwondo (M & W)	44.	Tenpin Bowling (M & W)

ANNEXURE-IV

CRITERIA FOR GENERAL FITNESS TEST, SKILL & GAME PERFORMANCE TEST FOR ADMISSION UNDER RESERVED CATEGORY OF SPORTS

General Fitness Test			
It is essential for the candidates to qualify any one of the following General Fitness Test items for considerations of admission in Archery, Chess, Shooting and any two of the following fitness test items for consideration of admission in other games / sports as per the following standards.			
1.	Strength	Standing broad jump 1.65 mts. For Men 1.15 mts. For Women	Two attempts allowed
2.	Endurance	1000 mts. Run/Walk 5.00 minutes for Men 6.00 minutes for Women	One attempt allowed
3.	Speed	50 mts. Dash 8.00 seconds for Men 9.00 seconds for Women	One attempt allowed

Note: It is essential to qualify the General Fitness Test for appearing in the Skill & Game Performance test.

1. No Physical Fitness Test for specially challenged candidates / players.
2. All the candidates are to appear in the General Fitness Test in proper sports kit.
3. Any injury / casualty caused to the applicant during sports trials shall be the sole responsibility of the applicant.

Skill and Game Performance Test	
It is essential for the candidate to qualify the Skill and Game Performance Test for consideration of admission.	
1.	Fundamental Skills in the concerned game
2.	Game Performance in Trials.

Note: It is essential to qualify the Skill & Game Performance Test for Verification of Original Sports Certificates for awarding Marks.

Merit / Participation Sports Certificates
Maximum 100 Marks for Merit / Participation Sports Certificates
Maximum 100 Marks for Merit / Participation Sports Certificate as per the criteria in Annexure-V. Only the Highest Merit / Participation Sports Certificate will be considered for Marking.

**CRITERIA FOR MARKING OF MERIT / PARTICIPATION SPORTS CERTIFICATE
OUT OF MAXIMUM 100 MARKS**

Note: – Tournaments/Championships other than Inter University/Inter College/Inter School will be considered for Gradation provided they are recognized by International Olympic Committee/ Indian Olympic Association/respective National Federation / State Association / BCCI / SGFI / **MYAS***

Level of Game/ Sport Competition(s)	Ist	IIInd	IIIrd	Participation
<u>CATEGORY 'A'</u>				
1. Sports performance as a player in Olympic Games / Paralympic Games (under senior / open category).	100	97	95	91
2. Sports performance as a player in World Cups/ Championships (Four Year Cycle) under senior / open category	97	95	93	89
3. Sports performance as a player in Asian Games (under senior / open category)	95	93	91	87
4. Sports performance as a player in Asia Cup / Asian Championship (Four Year Cycle) under senior / open category	93	91	89	85
5. Sports performance as a player in Commonwealth Games (under senior / open category).	91	89	87	83
6. Sports performance as a player in Commonwealth Championships (Four Year Cycle) (under senior / open category).	89	87	85	81
7. Sports performance as a player in World cups / World Championships (Two Years Cycle) under senior / open category	87	85	83	79
8. Sports performance as a player in Asia Cup / Asian Championship (Two Years Cycle) under senior / open category.	85	83	81	77
9. Sports performance in Commonwealth Championships (Two Years Cycle) under senior / open category.	83	81	79	75
10. Sports performance as a player in World University games / World University championships (Two year Cycle)	81	79	77	73
11. Sports performance as a player in World Cup / Championship (one year cycle) under senior / open category.	79	77	75	71
12. Sports performance as a player in Asia Cup / Asian Championship (One Year Cycle) under senior / open category / Sports performance as a player in Common Wealth Championships (One Year Cycle) under	77	75	73	69

senior / open category / Sports performance as a player in South Asian Games (under senior / open category). Asian University Games and Championships.				
Note: Marks for World Cup/ Championships, Asian Cup/ Championships / Common wealth Championships under Junior/ Youth/ Cadet categories will be awarded $\frac{3}{4}$ of marks awarded to the respective senior categories of same tournament / championship / category e.g. for Junior World Cup / Championship for 1st 87x3/4 = 65.25, for IInd 85 x $\frac{3}{4}$ = 63.75, for IIIrd 83 x $\frac{3}{4}$ = 62.25 and so on.				
<u>CATEGORY 'B'</u>	50	48	46	42
1. Sports performance as a player in National Games (under senior/ open category)				
2. Sports performance as a player in National University Games / Inter Zonal Universities Games for Universities (under senior / open category) / Sports performance as a player in senior National / Inter State Championships for seniors / Federation Cup for seniors / khelo India school games / Khelo India University Games (under 21) // Sports performance as a player in Khelo India School Games / SGFI National School Games. Sports performance as a player in Junior National / Cadet Nationals / Youth Nationals	48	46	44	40
3. Sports performance as a player in Zonal University Championships / National Zonal Championships (under senior and open category)	46	44	42	38
<u>CATEGORY 'C'</u>	36	34	32	28
1. Sports performance as a player in A division Inter College tournaments other than professional Universities/ Deemed Universities / Agricultural Universities / Law Universities / Technical and Management Universities /Senior State Championship / Inter District Championships / State School Games / Junior / Cadet / Youth State Championship. Position as a player in Inter University Tournament / Competitions for professional Universities / Deemed Universities / Agricultural Universities / Law Universities / Technical and Management Universities, School Nationals other than SGFI				
<u>CATEGORY 'D'</u>				
1. Sports performance as a player in inter college of professional universities / residential universities / PU Campus Championships / B and C division Inter	26	24	22	Not Eligible

college.				
Note: The certificates not mentioning the level of tournament i.e. Senior /Junior / Youth / Schools will be considered as per the following age criteria: 1. Under 17..... Junior 2. Under 19.....Youth 3. Above 19.....Senior * BCCI: Board of Control for Cricket in India * SGFI: School Games Federation of India * MYAS: Ministry of Youth Affairs & Sports				

Note:

1. Sports Certificate of Invitational / Memorial /Open/ Prize Money League/ Ranking and other tournaments not mentioned in Annexure -V, competitions will not be considered for admission under reserved category of sports.
2. Merit / Participation Sports Certificates of preceding three years will be considered from 01st July 2018 to 30th June 2021.
3. Applicants are required to upload Self-Attested copies of two Merit / Participation Sports Certificates.
4. Only the Highest Merit / Participation Sports Certificates will be considered for Awarding Marks.
5. Sports Certificates signed by less than two office bearers of concerned Federation / Association of the concerned sports discipline will not be considered for admission under reserved category of sports.

GENERAL RULES

1. The result of the Entrance Test shall, *ipso facto*, not entitle a candidate to get admission in an institution/department/centre/college concerned where he/she intends to seek admission. It will be the responsibility of the candidate to make sure about his/her eligibility and fulfillment of such other conditions as may be prescribed for admission in the rules and regulations of University/Institution concerned. Merely because a candidate is allowed to appear in the Entrance Test does not mean that he/she is eligible and his/ her appearance therein will not stop or debar the university/ institution concerned from satisfying itself about his/her eligibility at any subsequent stage.

Notwithstanding anything contained in this prospectus, the eligibility conditions for admission to any particular course, shall be governed by the respective rules/regulations as enshrined in the P.U. Calendar, Volumes I, II and III (latest editions) and / or the General Guidelines for Admissions/ Handbook of Information-2021 issued by the University and / or decisions of the University senate/ syndicate. In case of any conflict or inconsistency between the prospectus on one hand and the aforesaid Panjab University rules and regulations/ guidelines / Handbook of Information-2021 / decisions of Senate/ Syndicate, on the other, the latter shall prevail.
2. The Entrance Test will be held at **CHANDIGARH, REGIONAL CENTRES at HOSHIARPUR, LUDHIANA AND MUKTSAR** on the scheduled dates.
3. A candidate desirous of taking the Entrance Test should submit his / her fee in any branch of State Bank of India using website generated challan OR through online payment mode latest by 21-05-2021 (Friday) upto 4:00 p.m.
4. **Last date for uploading of photograph, signature with rest of the information on the website is 24.05.2021 (Monday).**
5. In no case, the fee for the PU-CET (P.G.) 2021, once paid, shall be refunded/ transferred / adjusted.
6. In case of Objective Type question papers, the candidates shall be required to answer questions on the OMR Answer-sheet provided for the purpose only following all the rules/ norms as stated on the Answer sheet. However, entrance test for admission to M.A. English; M.A. Journalism and Mass Communication and M.A. (History) shall not be on OMR sheet.
7. The Entrance Test shall be in English only.
8. Thirty minutes extra would be given to the visually handicapped/PwD candidates.
9. In case of Objective Type question papers, the candidates shall be required to hand-over the Question booklet and OMR Answer sheet to the Centre Superintendent.
10. The candidates shall be required to hand over their OMR answer-sheets and the question paper in full to the Centre Superintendent. No page/part of the Question paper/OMR Answer Sheet is to be removed/torn/taken out of the Examination Centre under any of the circumstances, failing which the candidates shall be disqualified from the entire Entrance Test.
11. ***The use of calculators is not allowed*** in any subject/paper.
12. The University will provide logarithmic table. Borrowing or carrying of the log table or other such material is not allowed.
13. If any candidate who submits two online Entrance Test forms for the same Course his/her candidature shall be considered only on the basis of one Form.
14. The candidates must bring their own stationary items such as **Black Gel Pen. Borrowing of material inside the Test Centre is strictly prohibited.**
15. In case of Objective Type question papers, **rough work** should be done in the space provided for this purpose. No rough work shall be done on the OMR Answer Sheet under any circumstances.
16. In case of Objective Type question papers having OMR sheets, **there shall be NEGATIVE MARKING FOR WRONG ANSWERS, i.e., marks will be deducted for wrong answers.** If for each correct answer 1 mark is to be awarded, for a wrong answer $\frac{1}{4}$ mark will be deducted.
17. **There shall be no re-evaluation/re-checking/re-assessment of answer-sheets under any circumstance. Request for seeing the Question Booklet / answer-sheets/answer-books by the candidates shall not be entertained at all. The evaluation once done by the University shall be absolutely final.**
18. If a candidate wishes to verify his/her result, he/she will be provided a photocopy of his/her answer sheet on payment of Rs. 10,000/- within 10 days after the declaration of the Entrance Test result and the office should process the whole procedure within three working days. In

case, a discrepancy is found in the result of the candidate, the result would accordingly be revised and the fee deposited will be refunded.

19. In case of Objective Type question papers, the candidate must ensure that the answers to the questions are attempted on the specifically prescribed OMR answer sheet only. No answer attempted on the question booklet will be considered for evaluation. Only those questions answered on the OMR sheet shall be taken into account.
20. **RESOLVING OF TIES**
Candidates securing equal marks in the Final Merit List shall be bracketed together. However, their inter-se merit rank shall be determined as under:-
 - (a) A candidate getting higher percentage of marks in qualifying examination (Bachelors degree) shall rank higher in order of merit.
 - (b) If the marks, as mentioned in (a) are also the same then the candidate obtaining higher percentage of marks in 12th class or an equivalent examination shall rank higher in order of merit.
 - (c) If two or more candidates secure equal marks in (a) and (b) above, candidate senior in age shall rank higher in order of merit.
21. For the courses offered by the Panjab University Departments / Centres, the candidate will have to fill up and submit an online Admission Form at <http://onlineadmissions.puchd.ac.in> or before the last date as prescribed by the University.
22. The admission shall be based on the relative merit of the candidates as determined by the marks obtained in the qualifying degree examination and the result of the Entrance Test being held in the year of Admission, subject to such reservation and weightage as are prescribed in the Rules of Admission of the University Department/Centre concerned.
23. Carrying of any communication equipment such as **mobile phones / pager/ wireless set, scanner/ pen scanner/ camera or any such electronic / digital gadget etc** in the examination hall shall not be permitted and will lead to **disqualification**.
24. Candidates should not carry eatables, drinks etc. into the Test Centre. Smoking inside and around the Centre is not permitted.
25. Any candidate who creates disturbance of any kind during examination or otherwise misbehaves in or around the examination hall or refuses to obey the Superintendent/Deputy Superintendent/Assistant Superintendent /any other official on examination duty or changes his/her seat with any other candidate or occupies any seat, other than the one allotted to him/her shall be expelled from the examination hall. **("Expulsion" for this purpose would mean cancellation of the Entire Entrance Test)**. The Centre Superintendent/Observer/any other authorized University Officer/Official shall be competent to expel a candidate from the examination centre.
26. Any candidate having in his possession or accessible to him/her paper/books or notes which may possibly be of any assistance to him or is found giving or receiving assistance, or copying from any paper/book or note or from anywhere else or allowing any other candidate to copy from his/her answer book or found writing on any other paper, questions set in the question paper, during examination or using or attempting to use any other unfair means or indulging in any kind of misconduct shall be expelled from the examination hall. **("Expulsion" for this purpose would mean cancellation of the Entire Entrance Test)**. The Centre Superintendent/Observer/any other authorized University Officer/Official shall be competent to expel a candidate from the examination centre.
27. If any answer sheet of a candidate shows or it is otherwise established that he/she has received or attempted to receive help from any source in any manner or has given help or attempted to give help to any other candidate in any manner, the relevant answer-sheet shall be cancelled. The cancellation of the answer-sheet shall mean cancellation of all answer- sheets of the Common –Entrance Test. The decision of the Controller of Examinations, Panjab University, Chandigarh in this regard shall be final.
28. ***If a candidate writes his/her name or puts any kind of identification mark or discloses his/her identity by any method whatsoever on the cover or anywhere else in the Question Booklet/Answer Sheet, the same shall be treated as cancelled. The cancellation of the answer-sheet shall mean cancellation of all answer-sheets of the Entrance Test. The decision of the Controller of Examinations, Panjab University, Chandigarh in this regard shall be final.***
29. Any person who impersonates a candidate shall be disqualified from appearing in any University examination including this examination for a period of five years, if that person is a student on the rolls of a recognized College or University. But if the person is not on the rolls of a recognized College or University, he/she shall be declared as a person not fit and proper to be admitted to any examination of the University for a period of five years and the case, if necessary, shall also be

reported to the police for further action in the matter. The candidate who is being impersonated shall also be disqualified for a period of five years from appearing in any examination of this University apart from any other action which the University may take against him, as deemed fit

30. If it is found that a candidate has knowingly or willfully concealed or suppressed any information/fact which renders him/her ineligible to take the Entrance Test, his/her result of the Test as also admission to a Institution/Department/Centre of the University, if granted, shall stand cancelled and he/she shall have no claim whatsoever against the Institution/Department/Centre concerned and the case, if necessary shall be reported to the police.
31. In order to avoid bias, the marks of the Entrance Test in case of such course where weightage of performance in Interview and/ or Group Discussion is to be added shall remain confidential till the process of compilation is not completed.
32. If a dispute or controversy of any kind arises before, during or after conduct of Entrance Test, the decision of the Controller of Examinations, Panjab University, in all such cases, shall be final.
33. ***The candidates shall be allowed to appear in the Entrance Test only on the production of the Admit Card at the Test Centre. No candidate shall be allowed to take the test without the Admit Card under any circumstances. The candidates must retain the Admit Card with them till the admission process is over, since it will be required again at the time of counseling.***
34. ***The Admit Card will be issued to the candidates only provisionally, at his/her sole risk and responsibility subject to the final confirmation of eligibility at the time of admission. It is further clarified that the candidates shall be taking the test at his/her own risk and responsibility as far as their eligibility is concerned and the University shall, in no way, be responsible if they are found to be ineligible, later, leading to cancellation of their result or any other consequence(s) emanating from the same.***
35. No candidate is allowed to leave the examination hall/room before the expiry of the time allotted for the respective paper.
36. The result of the PU-CET (P.G.) 2021 will be available at <http://results.puchd.ac.in>.
37. On 22-06-2021 (Tuesday) by 1.00 p.m. the question papers and their keys will be put on the University website. The candidate can file their objections regarding discrepancies and accuracy of the key, in writing, within 48 hours of this announcement i.e. 24-06-2021 (Thursday) by 1.00 p.m. through e-mail at arcet@pu.ac.in. Objections received will be published on the website and cross objections will also be invited within a certain timeframe as mentioned in the Schedule for Entrance Test and Admission PU-CET(PG)-2021 at Page 127. The valid concerns thus expressed will be given due consideration for evaluation.
38. The final date by which Admit Card will be available online is 07-06-2021(Monday). Admit Card required to be downloaded from the website by the candidates using their own Login and Password (provided while generating Bank Challan). **There will be no physical communication for this purpose.**
39. No separate Result Card will be issued.
40. The following functionaries may be contacted only in case of extremely urgent enquiry from 10.00 a.m. to 4.00 p.m. (on working days only)

1. Assistant Registrar (C.E.T.)	0172-2534829, 9855531122
2. Office Superintendent (CET)	0172-2534829, 8283823191
2. Controller of Examinations	0172-2534811, 2541825
3. P.U., Main Enquiry	0172-2534818, 2534819, 2534866
	18001802065, 9988815005
41. **Ragging in any form is banned in Panjab University. If a student is found to have indulged in ragging, strict action including expulsion from the Institution will be taken against that student as per Rules.**
42. Special arrangements for amanuensis (writer of answer):
 A candidate may be allowed help of an amanuensis (writer) if he/she is:
 - (i) Blind OR
 - (ii) Permanently disabled from writing with his/her own hand.
 - (iii) Temporarily disabled from writing on account of fracture of the right or left arm, forearm or dislocation of a shoulder elbow or wrist etc. The candidate shall produce a certificate from a Professor of the speciality concerned of a Medical College and where there is no Medical College, from the Chief Medical Officer of the District concerned to the effect that the candidate is unable to write his/her answer-books because of the temporary disablement.

43. **ADMISSION PROCESS**

- a) Qualifying an Entrance Test does not entitle a candidate to seek admission in a course. The candidate will have to fill up and submit an online Admission Form to be available at <http://onlineadmissions.puchd.ac.in> (to be announced later on) and has to meet the eligibility requirements of the course.
- b) Every candidate must apply for the Reserved Category (ies) to which he/she belongs to in the Admission Form. All candidates will be considered in the General Category irrespective of the fact that they have claimed for admission under Reserved/Additional Categories subject to the condition that they must fulfil the minimum eligibility requirement of the course for General Category. No candidate shall be considered for admission against any Reserved Category(ies) for which s/he has not applied.
- c) Once the candidate has submitted the online Entrance Test Form, any change in the Form including category once marked shall not be allowed.
- d) The candidates who are applying under the Sports Category are required to see Appendix B (pp. 57-59) for further procedures and guidelines.
- e) Candidates who wish to claim weightage on the basis of NCC, NSS, Youth Welfare, ADULT EDUCATION and other activities should follow the guidelines as enshrined in the Handbook of Information-2021.

44. **INSTRUCTIONS RELATED TO COUNSELLING**

- a) A candidate, whose name appears in the Merit List will be required to attend counselling personally according to her/his merit position on the day/s shown in the counselling schedule to be uploaded on the Online Notice Board and also on the physical notice board of the department concerned. **Physical presence in the counselling is mandatory for all the candidates** on the notified dates. All those candidates who attend the counselling are requested to mark their attendance. Only those candidates who report and mark their attendance on the day(s) of counselling shall be considered for admission during the filling up of vacant seats. The candidate must bring along with all the original documents.
- b) The candidate shall attend the counselling for admission at her/his own risk, expense and responsibility.

45. The admission of a candidate shall be PROVISIONAL and subject to approval by the appropriate authority of Panjab University.

46. **CANCELLATION OF SEATS / ADMISSION**

Admission of all such students who fail to attend at least 33% of the total lectures/ tutorials / practicals etc. delivered / held in all the papers during the first ten working days from the start of teaching work shall be cancelled by the Board of Control/ Joint Admission Cell after following the procedure given below:-

- a. By the 12th day after the start of classes for a particular course, the names of those students who fail to attend at least 33% of the total lectures / tutorials / practicals etc. shall be put up on the Notice Board and online Notice Board of the Department and also send a copy of the same to the office of the DUI within 4 days of the date of such notice. A student who is short of attendance may give in writing the reasons for his/her absence from the classes.
- b. If a student does not submit an application in writing within the prescribed time as stated above, or the reasons adduced by the student in his application are not found to be sufficient and justified in the opinion of the Board of Control/ Joint Admission Cell, his admission shall be cancelled.
- c. All the seats thus falling vacant shall be filled strictly in the order of merit from the waiting list or through subsequent counselling before the expiry of the last date fixed for admissions by the University.
- d. When the admission of the student(s) is cancelled as stated above, the Department shall display on the Notice Board and online Notice Board, the list of the person(s) next in the waiting list and make admissions accordingly.
- e. Approval of cancellation of admission and permission to fill up the cancelled seat(s) is to be sought from the DUI.

47. For detailed Instructions related to admission, refer to Handbook of Information 2021, **likely to be available in the month of June 2021** at Panjab University website (<http://admissions.puchd.ac.in>).

INSTRUCTIONS FOR GIVING ANSWERS ON OMR ANSWER SHEET

- 1 All questions are to be attempted on the answer sheet as per instructions printed on the question booklet and OMR Answer Sheet.
- 2 **The Answer Sheet is designed for computer evaluation. Please follow the instructions given on the answer sheet strictly otherwise it may make evaluation by the computer difficult. Any resultant loss to the candidate on the above account i.e. not following the instructions completely shall be of candidate only.**
- 3 Each question is followed by four answer choices labeled A, B, C and D. Select the answer you think is the best response and darken the bubble bearing the correct response label against the serial number of the question. For example if you think that the answer to question number 2 is D, then mark as follows:

Q. 2 ☒ A ☐ B ☐ C ☐ D

The Answer marked as under shall be considered as wrong:

or

A B C ~~D~~

or

A B C ~~D~~

or

Ⓐ Ⓑ Ⓒ Ⓓ

or

A B C D

or

A B C

A C

- 4 For marking answers **use Black Gel Pen only to darken the corresponding circles.**
- 5 *If you do not want to answer any question, leave all the bubbles corresponding to that question blank. It will be considered as an unattempted question.*
- 6 Be very careful in filling in the bubble in the first instance since erasing or changing it will spoil the response and go to the disadvantage of the candidate.
- 7 In order to open the Question Booklet remove the paper band gently.
8. **Write your Roll Number on the answer-sheet as also on the Question Booklet, only in the space provided for the purpose and at no other place in the question Booklet and Answer Sheet.**
9. The use of log tables is permitted, **use of Calculator is not allowed.**
10. **Rough work** should be done in the space provided for this purpose. No rough work shall be done on the OMR Answer Sheet under any circumstances.
11. Penalty for wrong answers (**Negative marking**) will be applied i.e. marks will be deducted for wrong answers. If for each correct answer 1 mark is to be awarded, for a wrong answer $\frac{1}{4}$ marks will be deducted. For example, these marks will be calculated as under:
P = Number of correct answers.
Q = Number of wrong answers
R = Number of unattempted questions

(An unattempted question means all the bubbles corresponding to that question are left blank).

It will also be checked that **P + Q + R = Total marks allotted to the Paper.**

Final Score = P - $\frac{1}{4}$ Q (calculated to the second place of decimal)

SAMPLE QUESTIONS

Sample Questions for LL.M.

Part – I: Constitutional Law and Current Affairs

1. The doctrine of “Basic Structure of the Constitution” was propounded by the Supreme Court of India in
 - A) Shankari Prasad v. Union of India, AIR 1951 SC 458
 - B) Golaknath v. State of Punjab, AIR 1967 SC 1643
 - C) Kesavananda v. State of Kerala, AIR 1973 SC 1461
 - D) Minerva Mills v. Union of India, AIR 1980 SC 1789
2. The President of India may make a proclamation under Article 356 as to the breakdown of constitutional machinery in a State.
 - A) When he is personally satisfied as to them circumstances.
 - B) When he is advised by the Prime Minister to do so.
 - C) When he is advised by the Union Council of Ministers.
 - D) When he receives a report from the Chief Election Commission.
3. The President of India, in the matters of appointment of Judges of a High Court :
 - A) Is not obliged to consult any Judge of Supreme Court or High Court.
 - B) Is bound by the advice of the Governor of a State
 - C) Must give primacy to the opinion of the Chief Justice of India.
 - D) Is not bound to consult the Chief Justice of India.
4. Right to education has been included in the constitution by
 - A) 86th Amendment
 - B) 100th Amendment
 - C) 87th Amendment
 - D) 94th Amendment
5. Ordinance can be promulgated by the president of India if,
 - A) Both the Houses of Parliament are in session
 - B) Both the Houses of Parliament are not in session
 - C) Either of the Houses is not in session.
 - D) None of the above.
6. How many amendments have been carried out in constitution of India?
 - A) 109
 - B) 106
 - C) 99
 - D) 94
7. The tenure of Jammu and Kashmir Assembly is
 - A) 5 Years
 - B) 6 Years
 - C) 7 Years
 - D) None of the above
8. The attempt to suicide is no more punishable. Which section of the IPC was declared unconstitutional and hence void by the Supreme Court in April, 1994?
 - A) 302
 - B) 303
 - C) 304
 - D) 309
9. The newly elected President of USA Barack Obama belongs to which political party.
 - A) Republican
 - B) Democratic.
 - C) Communist
 - D) None of the above
10. Since August 1994, the rupee has been made fully convertible in :
 - A) The capital account
 - B) The capital and saving account
 - C) The saving account
 - D) The current account

Part– II: Substantive Law

Commercial Law (Law of Contract and Company Law)

1. A contract entered into without 'Free Consent' is :
 - A) Void
 - B) Voidable
 - C) Valid
 - D) Illegal
2. Property insurance is a contract of :
 - A) Indemnity
 - B) Contingent contract
 - C) Wagering agreement
 - D) Guarantee
3. Creditor, on default by the principal debtor, can file suit against:
 - A) Secured property
 - B) Principal debtor alone
 - C) Surety and principal debtor;
 - D) All the above jointly.
4. A company is a Government Company only if :
 - A) All the shares of the company are held by Central or State Government;
 - B) At least 25% of Shares are held by Central or State Government;
 - C) Majority of Shares are held by Central or State Government or both;
 - D) Majority of Directors are appointed by the Central or State Government
5. Annual general meeting of a company is to be held with a gap between two consecutive meetings of successive Years;
 - A) Of not more than twelve month;
 - B) Of not more than twenty four months;
 - C) Of not more than fifteen months;
 - D) Any time but less than twenty four months

Family Law

1. Which of the following is valid marriage under the Hindu Marriage Act. 1955?
 - A) H, a male Hindu aged 35 marries W who is a deserted wife of B, who had filed a suit for divorce and suit is still pending
 - B) H, a male Hindu aged 36 marries a second wife with the consent of his first wife who has not been able to have a child for the last 10 Years
 - C) H, a Brahmin Male aged 30, marries a Buddhist girl aged 18
 - D) H, an idiot male Hindu aged 27 marries W, a Hindu female Lunatic
2. Which of the following is valid adoption under the Hindu Adoption & Maintenance Act, 1956?
 - A) H, a male Hindu aged 26 adopts a daughter aged 6
 - B) H, a male Hindu and his wife adopt a son aged 16
 - C) H, a male Hindu aged 40 adopted a son aged 5, after his natural born son migrated to the U.S.A.
 - D) H, a Hindu bachelor aged 25 adopts a son aged 3
3. Which of the following is Hindu under the Hindu Law?
 - A) A is born of Hindu father and Christian mother and brought up as a Christian
 - B) A is born of Hindu father and Buddhist mother
 - C) A is born of Muslim father and Parsi mother'
 - D) A is born of Christian father and Muslim mother
4. Which of the following relatives will succeed to the Property of H, a Hindu male under the Hindu Succession Act 1956 after his death?
 - A) Daughter
 - B) Father
 - C) Brother
 - D) Sister
5. Which of the following is SAHI NIKAH (valid marriage) under the Mohammedan Law?
 - A) M, a Mohammedan male aged 30 married W, a Muslim woman under-going Iddat
 - B) M, a Mohammedan male aged 27, married W, a Muslim woman in a desert, without any witness
 - C) M, a Mohammedan male aged 35, married his wife's sister
 - D) M, a Mohammedan male aged 41, married W, a Muslim female aged 21 as second wife without the consent and against the wishes of his first wife

Law of Torts

1. The defense of *Volenti non fit injuria* is available in :
 - A) Rescue cases
 - B) Help cases
 - C) Negligence cases
4. Malice/evil motive is relevant in :
 - A) Negligence
 - B) Defamation
 - C) Vicarious Liability
 - D) Nuisance

- D) Unlawful acts
2. The test of reasonable foreseeability was laid down in :
 A) Re Polemis case
 B) Donoghue v. Stevenson
 C) Rylands v. Fletcher
 D) Ashby v. White
 3. There is physical harm to the plaintiff in :
 A) Assault B) Defamation
 C) Nervous shock D) None of these
 5. Tort is :
 A) A wrong against the Society
 B) Statutorily defined in the Limitation Act
 C) A codified branch of law
 D) A civil wrong based on the agreed obligations

Legal Theory

1. Who observed that International Law is the vanishing point of jurisprudence?
 A) Austin B) Salmond
 C) Starke D) Holland
2. Identify the Jurist who defined Law as "the form of the guarantee of the conditions of life of society, assured by the states' power of constraint":
 A) Roscoe Pound B) Holmes
 C) Ihering D) Salmond
3. Realist theory of law emphasizes on:
 A) Social function of law
 B) Human factors in law
 C) Social criterion of validity of law
 D) Essentiality of law for social life
4. According to Hohfeld, the jural opposite of 'Power' in the context of his analysis of legal right in the wider sense is :
 A) Liability
 B) Disability
 C) Duty
 D) Immunity
5. Possession is said to be ownership on the defensive by :
 A) Savigny
 B) Salmond
 C) Ihering
 D) Gray

Public International Law

1. 'International Law may be defined in broad terms as the body of general principals and specific rules which are binding upon the members of the international community in their mutual relations'
 A) Oppenheim B) Lawrence
 C) Brierly D) Fenwick
2. 'The duties and rights of the States are only the duties and rights of men who compose them' :
 A) Kelsen B) Westlake
 C) Hall D) Starke
3. 'A State is, and becomes an international person, through recognition only and exclusively':
 A) Oppenheim
 B) Anzilotti
 C) Holland
 D) Pitt Corbett
4. "The rebus sic stantibus doctrine is one of the enigmas of International Law" who said
 A) Starke
 B) Edward Collin
 C) Oppenheim
 D) Anzilotti.
5. 'From the theoretical point of view, the provision for applying 'the General Principles of Law' has been regarded as sounding the death-knell of positivism':
 A) Lauterpacht
 B) C.C.Hyde
 C) Starke
 D) Triepel

Indian Penal Code

1. P, a Pakistani, fires at A, an Indian, standing on the no-man's land. A runs and dies on the Indian territory:
A) P has committed no offence
B) P is liable for murder
C) P is liable for attempt to culpable homicide
D) P is liable for attempt to grievous hurt.
2. With an intention to kill B administers sugar mistaking it for arsenic :
A) P has committed no offence
B) P is liable for attempt to murder
C) P is liable for culpable homicide
D) P is liable for grievous hurt.
3. P intentionally gives a sword cut to A. A subsequently dies of septic meningitis which developed on account of use of wrong remedies and neglect of treatment:
A) P is liable for murder
B) P is liable for culpable homicide
C) P is liable for grievous hurt
D) P is liable for simple hurt
4. P, a stoutly built man comes with a lathi in his hand. P picks up the bag of A who being weak person does not resist :
A) P is liable for theft
B) P is liable for robbery
C) P is liable for extortion
D) None of the above
5. P threatens A with a pistol and puts his hand in A's pocket which is empty :
A) P has committed no offence
B) P is liable for attempt to theft
C) P is liable for attempt to robbery
D) P is liable for attempt to extortion

Transfer of Property Act

1. Which of the following is a non-transferable property under the T.P.Act:
A) Actionable claim
B) Mortgagor's right to redeem
C) Lessee's right under the lease
D) Right of an occupancy tenant
2. The Supreme Court has held, that the rule of *lis pendens* equally applies to involuntary transfers, in the case of
A) Kedar Nath Vs. Sheo Narain AIR 1970 S.C. 1717
B) Narayana Rao Vs. Basavarajappa AIR 1956 S.C.727
C) Vidhyadhar Krishnarao Mungi Vs. Usman Gani Saheb AIR 1974 S.C.685
D) Beepathuma Vs. Velasari Shankra-Narayana Kadambolihaya AIR 1965 S.C.241
3. Where a mortgagor personally binds himself to repay; the mortgage money by a certain date and possession of the property is delivered to the Mortgagee, the mortgage shall be recognized as :
A) Simple mortgage
B) English mortgage
C) Usufructuary mortgage
D) Anomalous mortgage
4. The Transfer of Property Act applies to transfers :
A) By operation of Law
B) By act of parties
C) By the Government
D) By parties who are Muslims
5. The rule that every transaction involving transfer of property is to be treated as single unit is the basis of
A) The rule of apportionment
B) The rule of *lis pendens*
C) The rule of election
D) The rule of contribution

Industrial Disputes Act

1. The Industrial Disputes Act, 1947 aims at :
A) Providing social security benefits to the workmen
B) Regulating conditions of work in industries
C) Investigation and settlement of industrial disputes
D) Regulating the employment of women during certain periods
2. Retrenchment means :
A) Refusal by an employer to continue to employ a workman
B) Termination by the employer of the service of a workman for any reason whatsoever
C) Inability on the part of employer to provide employment to the workman
D) Voluntary retirement of a workman
3. The power of the Appropriate Government under Section 10 to refer industrial disputes for adjudication is :
A) An administrative power
B) Legislative power
C) Judicial power
D) Quasi-judicial power
4. Lockout is :
A) For trade reasons
B) An act on the part of employer taken to coerce or pressurize the labour
C) Not an intentional act
D) Not concerned with industrial dispute
5. Strike means :
A) Mere cessation of work
B) Cessation of work under common understanding
C) Cessation of work coupled with gherao of management
D) Slowing down production

Sample Questions for Master of Computer Applications (MCA)

1. Which of the following is NOT a language processor?
A) Compiler
B) Loader
C) Interpreter
D) Assembler
2. Which of the following is NOT an Internet protocol?
A) LTP
B) SMTP
C) HTTP
D) ATM
3. The sequence that is in ascending order in size is
A) bit, word, byte, nibble
B) nibble, byte, bit, word
C) nibble, bit, word, byte
D) bit, nibble, byte, word
4. Total number of ways in which four boys and three girls can sit in a row so that boys and girls have alternate seats is
A) 72
B) 144
C) 288
D) 720
5. If the word MANMOHANWASHERE corresponds to ZOAABVNBJOFRFR, then the word that corresponds to LRF is
A) HEY
B) MAN
C) GOT
D) YES
6. Two persons Ram and Shyam sort the letters at constant rate. Ram sorts L letters in 60 minutes while Shyam takes 30 minutes to sort L letters. The total time taken by both of them in sorting L letters working together but independently is
A) 10 min
B) 20 min
C) 15 min
D) 45 min
7. The remainder obtained on dividing 2^{1680} by 1763 is
A) 1
B) 3
C) 13
D) 31
8. The area bounded by the curve, $y = (x+1)^2$, its tangent at (1, 4) and the x – axis is
A) $\frac{1}{3}$
B) $\frac{2}{3}$
C) 1
D) $\frac{4}{3}$
9. The median of 25,13,4,6,3,11,15,10 is
A) 4.5
B) 6.0
C) 10.5
D) 5.0

Sample Questions for M.A. Journalism and Mass Communication

1. Write about 150 words each on any two of the following: (16 Marks)
- American Presidential elections
 - Budget 2008-09
 - Patriotism in Indian Cinema
 - Beijing Olympics 2008

2. Rewrite the passage in 200 words: (8 Marks)

It was a cold, windy, stormy, night where the wind was blowing very strongly. The driver of the truck was driving very fast on the wet road at a speed of over 150 km per hour. He did not see the branch of the tree lying on the wet road until he was almost upon it. He braked very hard. Because he braked very hard, the tyres skidded and he lost control and the truck crashed into the ditch on the side of the road.

Eye witnesses said that the truck was being driven at very high speed because of which the driver lost control. Fortunately no one was killed. The driver escaped with minor injuries as he managed to jump out of the truck before it turned turtle into the ditch.

Other than the fact of over speeding, blame can also be placed at the hands of the municipal authorities. The trees lining the stretch of the main road running through the city is lined by trees that are over a 100 Years old. What compounds the problem is that these trees are not pruned and they are a source of danger not only to vehicles but also the pedestrians. Many representations have been made to the authorities to uproot these old trees that are many decades old and to replace them with young saplings, particularly of a species that has hard wood.

There is also no check post on this part of the road to check over speeding. This can prove dangerous especially on days that the weather is bad as people tend to drive very fast here as the stretch of the road here is straight and wide and people tend to over speed here. Also the streetlights also do not function always causing many accidents.

3. Write about 150 words each on two of the following: (16 Marks)
- Dr. Manmohan Singh
 - Young Turks in Indian Politics
 - Your role model
 - Sachin Tendulkar

4. **PART I: CURRENT AFFAIRS:** (10 Marks)

Choose one option to answer the questions:

- Who among the following was chosen by the TIME magazine as the 'Person of the Year 2019'?

A) Greta Thunberg	B) Rahul Gandhi
C) Narendra Modi	D) Donald Trump
- Which among the following countries has introduced VISA exemption for foreigners seeking medical treatment?

A) Pakistan	B) UK
C) India	D) China
- The Union Territory of Jammu & Kashmir has constituted an administrative council to fulfill all the government functions. Who will Chair the Council?

A) GC Murmu	B) R K Mathur
C) Amit Shah	D) Rajnath Singh
- Google has launched a new cloud-based game streaming service. What is the name of the game service?

A) Google Arcadia	B) Google Stadia
C) Google Playmates	D) Google Nixplay
- Which Bangladeshi cricketer has been banned from the sport for five years?

A) Soumya Sarkar	B) Mushfiquir Rahim
C) Shahadat Hossain	D) Liton Das
- Who announced that the NRC process will be carried out across India and over all citizens?

A) P M Narendra Modi	B) Defence Minister Rajnath Singh
C) President Ram Nath Kovind	D) Home Minister Amit Shah
- Germany will achieve its climate goals by which year, as per the recently passed Climate Protection Act?

A) 2025	B) 2030
B) 2035	D) 2040
- What was India's rank in the recently concluded World Para Athletics Championship?

A) 9 th	B) 13 th
B) 24 th	D) 36 th
- What is the percentage of growth in road accidents mentioned in 'Road Accidents in India-

A) 0.46 percent	B) 0.50 percent
B) 0.64 percent	D) 2.50 percent
- President' Colour was recently awarded to which institution on November 20?

A) Indian Naval Academy	B) Indian Air Force
C) Indian Army	D) All of the above

PART II: GENERAL KNOWLEDGE

(10 marks)

Choose one option per question to answer the following Multiple Choice Question:

1. Which among the following is through regarding the humidity of the air?
A) It increases with the increase in atmospheric temperature.
B) It decreases with the increase in atmospheric temperature.
C) It is not affected by the change in atmospheric temperature.
D) It does not show any consistent behavior with the change in atmospheric temperature.
2. What are the grass lands of South America called?
A) Stepes
B) Prairies
C) Pampas
D) Savanna
3. Which of the following causes Earthquakes?
A) Volcanic eruptions
B) Landslides
C) Cyclones
D) Movement of a part of earth surfaces on account of the Faulting rocks
4. Which of the following is a reason behind the different seasons to occur?
A) Sun is moving around the earth
B) Of revolution of the earth around the sun on its orbit
C) Tilt of Earth's axis
D) All of the above
5. How do forests help soil?
A) Soil Erosion
B) Soil Protection
C) Depleting the soil of its moisture
D) All of the above
6. Which soil is best suited for paddy crop?
A) Black soil
B) Loamy soil
C) Hard soil
D) Red soil
7. The varieties of crops can be improved by which of the following methods?
A) Dihybrid crosses
B) Back cross
C) Double cross
D) Natural selection
8. Which of the following statements about the cultivation of tea & coffee is true?
A) Tea grows at a higher altitude than coffee
B) Coffee grows at a higher altitude than tea
C) Both grow at about the same altitude
D) There is no climatic relationship between the two crops
9. Which of the following crops has the highest photosynthetic activity?
A) Cotton
B) Sugarcane
C) Rice
D) Wheat
10. How does the Hybridisation develop improved crops?
A) Creating new and better genes
B) Eliminating undesirable genes
C) Producing favourable combination of genes
D) By encouraging favourable genes to removing unfavourable ones.

5. Interpretative passage

(5 Marks)

The most curious fact about the detective story is that it makes its greatest appeal precisely to those classes of people who are most immune to other forms of daydream literature. The typical detective story addict is a fairly successful professional man with intellectual interests and well read in his own field, who would never read gossip movie magazines or comics.

It is sometimes said that detective stories are read by respectful, law-abiding citizens in order to gratify, in fantasy, the violent wishes they dare not translate into action, but it is quite false. Detective fiction is a work of art where the author skillfully holds the attention of the reader, never letting him be sure, making him suspect every character by turn, until the last page, where the real culprit is revealed. All classics in detective fiction, 'Crime and Punishment', 'The Trial' etc. are examples of this. Of course, there is pulp literature also where the authors just churn out cheap stories based on a standard formula of sex, blood and violence.

- I) The word "curious" in line 1 means:
A) Inquisitive
B) Unusual
C) Prying
- II) The author asserts that readers of detective fiction are:
A) People bent on satisfying an unconscious thirst for blood
B) Dreamers unable to face the monotony of everyday reality
C) Believers in a story well told
- III) The opening paragraph suggests that the author considers movie magazines and comics to be:
A) Sources of factual data about society
B) Less addictive than detective fiction
C) The typical literary fare of professionals
- IV) The author's attitude to detective fiction can best be described as:
A) Profound veneration
B) Genuine appreciation
C) Aloof indifference
- V) The author emphasizes classic detective fiction as one that is:
A) Free of cheap gimmicks
B) Marked by suspense
C) Moves in a chronological manner

SAMPLE QUESTIONS FOR MASTER OF PUBLIC HEALTH

- Q1) Which is the source of Chlorofluorocarbons?
A. Thermal Power Plants
B. Automobiles
C. Refrigeration and Air – conditioning
D. Fertilizers
- Q2) Among cereals and millets richest source of calcium is:
A. Rice
B. Bajra
C. Maize
D. Ragi
- Q3) Bissinosis is common in:
A. Farmers
B. Textile Industry
C. Gold mine
D. Cement factory
- Q4) The most populous state in India is:
A. Uttar Pradesh
B. Bihar
C. Madhya Pradesh
D. Kerala
- Q5) A doctor suggested to a couple not to have more than one child because of
A. Rh+ male Rh- female
B. Rh- male Rh+ female
C. Rh+ male Rh+ female
D. Rh- male Rh- female
- Q 6) Acquired immunity is found in
A. Invertebrates
B. Vertebrates
C. Some Invertebrates
D. Both vertebrates and invertebrates
- Q 7) The incubation period of rabies ranges from –
A. 1 to 2 days
B. 3 to 4 days
C. 5 to 6 days
D. 10 days to 1 Year
- Q 8) At birth immunization required is
A. BCG and OPV-O
B. DPT-1
C. DPT-1 and OPV-1
D. Measles
- Q9) Anthracosis is caused due to
A. Coal Dust
B. Silica
C. Fe
D. Tobacco
- Q 10) Gini Index is associated with
A. Distribution of diseases
B. Distribution of Income
C. Distribution of deaths
D. Distribution of pollutants

SAMPLE QUESTIONS FOR M.A. (English)

- I. Write an essay within 400 words, taking a position 'For' or 'Against' on the topic given below:

The study of humanities is essential today.

OR

India has a bright future.

(25 marks)

- I. Read the poem given below and answer the questions that follow:

My Heart Leaps Up

My heart leaps up when I behold
A rainbow in the sky;
So was it when my life began;
So is it now I am a man;
So be it when I shall grow old,
Or let me die!
The Child is father of the Man;
And I could wish my days to be
Bound each to each by natural piety.

- A. The poet could have used some other word instead of 'behold'. Why is this word used?
B. Point out any literary device from the poem.
C. Explain the meaning of line seven in your own words.
D. How does the title fit the ideas expressed in the poem?

(20 marks)

- II. Write a précis of the passage given below, reducing it to one-third of its length. Give a suitable title. Make sure you write one word in each box in the answer sheet:

Even before Independence, India sustained a small and vibrant scientific community with a few, but outstanding contributions to its credit. This was managed in spite of the object poverty and widespread illiteracy that discouraged education of any kind, let alone advanced studies in science and technology. Out people might have missed the Industrial Revolution and its economic and social consequences, but not the revolutionary changes that were then taking place in science. Thus, in August 1947, a newly-independent India inherited a science community to work with. New laboratories were built; a new science department of the government formed and also commissions to harness the power of atom and space. The Government of the day came out with innovations to free science organizations from the rigid and crippling bureaucratic rules and procedures that were then the norms. As though to underline the importance of science further, Jawaharlal Nehru kept the portfolio of science with himself and persuaded Parliament to pass the Science Policy Resolution, a Utopian document with few parallels in the history of state and science. Much later, his daughter Indira Gandhi would also release a similar Technology Policy Statement of her government, reiterating the commitment of the State to the pursuance of indigenous technology. With all this support how have we done in the past 50 years?

Not bad at all, in technology, though our own assessment of success, at least until recently, seemed to be influenced more by the Cold War politics and regional geopolitics of the past decades than by achievements that have helped the country to be economically and politically independent and technologically relevant. India today is largely free of food imports. Thanks to the Green Revolution ushered in by agricultural scientists and farmers, the country has turned the begging bowl into a veritable bread basket. While more needs to be done – our yields are still some of the lowest in the world – the periodic bouts of scarcity and famine have been eliminated forever from the Indian landscape. The country has taken this achievement and similar successes in other areas of agricultural and animal husbandry so much for granted that we do not recognize how close India came to becoming a "failed State" dependent forever on food handouts from outside.

There are a few other tales of success, though not of this scale. India today routinely launches remote sensing satellites and will soon be launching its own geostationary communication and weather forecasting satellites, integrating India into one national village. The villages and towns are successfully connected by more than six million indigenously – designed and manufactured C-DoT telephone exchange lines. Indian chemical and pharmaceutical industries now have

their own product and process technologies and are becoming globally competitive. An Indian battle tank – currently rated as one of the best of its class – is entering into production. India was one of the earliest to build nuclear power reactors and has also an indigenously designed and successful, surface – to – surface missile. (489 words) (15 marks)

III. Pick out the correct answer for each question:

- i. The line 'If music be the food of love, play on' is from
 - A. Twelfth Night
 - B. Hamlet
 - C. Macbeth
 - D. Romeo and Juliet
- ii. A Vindication of the Rights of Women was written by
 - A. Margaret Fuller
 - B. John Stuart Mill
 - C. Judith Butler
 - D. Mary Wollstonecraft
- iii. In number, the skills of any language are
 - A. Four
 - B. Five
 - C. Infinite
 - D. Three
- iv. Chaucer's last work was
 - A. Troilus and Criseyde
 - B. The Canterbury Tales
 - C. The Parlement of Fowls
 - D. Le roman de la Rose
- v. Pick the comedy that takes its name from two pieces of wood that produce a crackling sound when hit against each other.
 - A. High comedy
 - B. Drawing room comedy
 - C. Slapstick
 - D. Shakespearean comedy
- vi. The true ----- is moved neither by happiness nor sorrow.
 - A. Optimist
 - B. Fatalist
 - C. Epicurean
 - D. Stoic

(15x1= 15 marks)

SAMPLE MULTIPLE CHOICE QUESTIONS FOR M.A. (GEOGRAPHY)

1. The temperature of Thiruvananthapuram is lower than that of Mumbai in May and higher than that of Mumbai in January because:
 - A) Thiruvananthapuram has a cold current and Mumbai a warm current
 - B) Thiruvananthapuram has higher rainfall in summer and it is closer to the equator.
 - C) Thiruvananthapuram is on the windward side and Mumbai is on the leeward side.
 - D) Thiruvananthapuram is thickly vegetated while Mumbai is not
2. Which of the following is not a characteristic of a barchan?
 - A) Its horns point in a down wind direction.
 - B) It has a crescent shape
 - C) Its windward slope is concave
 - D) It moves in the direction of the wind.
3. If the number of a Survey of India topographical sheet is 53 E/1, its scale is:
 - A) 1:25 000
 - B) 1:50 000
 - C) 1:250 000
 - D) 1:5000
4. Coral reefs are to be found in:
 - A) Polar latitudes
 - B) Tropical latitudes
 - C) Temperate latitudes
 - D) All of the above
5. The age and sex composition of the population is best represented by
 - A) Choropleth
 - B) Isopleth
 - C) Pie Diagram
 - D) Pyramid Diagram
6. Which of the following is an antecedent river?
 - A) Beas
 - B) Satluj
 - C) Ravi
 - D) Jhelum

7. Representative Fraction is a method used for showing
 - A) Scale on the map
 - B) Direction on the map
 - C) Contours on the map
 - D) Distance on the map
8. Which of the following is not a method used for finding north
 - A) Pole Star method
 - B) Similar Triangles method
 - C) Watch method
 - D) Rod method
9. Following is an example of cold desert
 - A) Sahara
 - B) Kalahari
 - C) Gobi
 - D) Mojave
10. Mercator's Projection was used primarily for drawing
 - A) Distribution Maps
 - B) Political Maps
 - C) Navigational Maps
 - D) Cadastral Maps

SAMPLE MULTIPLE CHOICE QUESTIONS FOR MASTERS IN DISASTER MANAGEMENT

1. Spread of epidemics is associated with
 - A) Floods
 - B) Landslides
 - C) Earthquake
 - D) Volcanic Eruption
2. The switching over from the use of diesel to CNG is important because:
 - A) CNG is cheaper than diesel
 - B) Diesel is polluting fuel and CNG is non-polluting fuel
 - C) CNG is easily available
 - D) CNG is a non renewable resource
3. Which of the following is caused due to water contamination?
 - A) Oral Cancer
 - B) Hypertension
 - C) Gastroenteritis
 - D) Tuberculosis
4. Which of the following is a conventional source of energy?
 - A) Solar Energy
 - B) Thermal Energy
 - C) Tidal Energy
 - D) Wind Energy
5. Which of the following is a primary activity?
 - A) Teaching
 - B) Retail trade
 - C) Mining
 - D) Tailoring
6. RIO-10 (The World Summit for Sustainable Development) in 2002 was held at
 - A) Keo Karo (India)
 - B) Johannesburg (South Africa)
 - C) New York (USA)
 - D) Melbourne (Australia)
7. Approximately 71% surface of earth is covered with water bodies, ice caps and glaciers that is why earth is also known as:-
 - A) Blue Planet
 - B) Green Planet
 - C) White Planet
 - D) Yellow Planet
8. Which of the following is eco-friendly way of managing kitchen waste?
 - A) Open dumping
 - B) Land filling
 - C) Burning
 - D) Vermi Composting
9. Indian Cheetah and Dodo bird are:
 - A) Vulnerable species
 - B) Extinct species
 - C) Threatened species
 - D) Rare species
10. Harike wetland is located on confluence of which two rivers?
 - A) Ganga-Yamuna
 - B) Chandra-Bhaga
 - C) Ganga-Brahmaputra
 - D) Beas-Satluj

SAMPLE MULTIPLE CHOICE QUESTIONS FOR MASTERS IN GEOINFORMATICS

1. Consider the following statements:

A The representative fraction of a map = $\frac{\text{distance on the ground}}{\text{distance on the map}}$

B the denominator of the representative fraction is always once

 - A) A only
 - B) B only
 - C) Both A and B
 - D) Neither A or B
2. Map showing the depths of oceans and seas is termed as:
 - A) Ethnographic map
 - B) Orographic map
 - C) Bathymetric map
 - D) Geological map
3. Which one of the following is the largest scale of map?
 - A) 1 : 10 000

- B) 1 : 50 000
C) 1: 100 000
D) 1 : 1000 000
4. Kaziranga is famous for:
A) Great Indian Bustard
B) One horned rhino
C) Cheetah
D) Ostrich
5. In the topographical sheet settlements are represented by
A) Green Color
B) White Color
C) Red Color
D) Black Color
6. Silent Valley is located in
A) Kashmir
B) Kerala
C) Uttaranchal
D) Tamil Nadu
7. Which of the following is a perspective projection?

A) Cylindrical Equal Area
B) Bonne's Projection
C) Gnomonic Projection
D) Sinusoidal Projection
8. The point vertically below the camera lens in a photograph is called:
A) Ground point
- B) Principal point
C) Isocenter
D) Ground nadir point
9. Which one of the following is the smallest scale of map?
A) 1: 10 000
B) 1:50 000
C) 1: 100 000
D) 1: 1000 000
10. Output Device of a computer is:
A) Keyboard
B) Printer
C) Monitor
D) Speaker
11. Pixel refers to
A) Picture element
B) Picture effect
C) Perfect element
D) Primary element
12. The term GPS refers to:
A) Global Prevention System
B) Global Protection System
C) Global Positioning System
D) None of the above.
13. The term GIS refers to:
A) Geographical Informative System
B) Global Information System
C) Geological Information System
D) Geographical Information System

Sample question paper Master of History

- Note :
1. Question No. 1 under Unit-I is compulsory. Attempt any 05 Questions in 80-100 words each. Each question carries 05 marks. (5 x 5 = 25 marks).
 2. Attempt any one Question from Unit –II in about 1000 words. Each Question carries 25 marks.
 3. Attempt any One Question from Unit-III in about 1000 words. Each Question carries 25 marks.

UNIT-I

Q-I

- i. What is meant by Mahajanpada ?
- ii. Explain Dhamma.
- iii. Explain Mansabdari System.
- iv. What was meant by Sangat ?
- v. Who were the Sufis ?
- vi. What is meant by commercialisation of agriculture ?
- vii. Explain Doctrine of Lapse.
- viii. Discuss the demand of Punjabi Suba ?

UNIT-II

- Q-II Write a note on the agriculture conditions in Ancient India.
- Q-III Comment on the impact on Mohhanmad-Bin-Tuglaq's administrative experiments.
- Q-IV Assess the contribution of the masses in the struggle for Independence.
- Q-V How did Maharaja Ranjit Singh establish the kingdom of Lahore ?

UNIT-III

- Q-VI What should be the role of the opposition parties in the Parliament ?
- Q-VII Comment on the status of Women in Post Independent India.

Sample Question Paper for Entrance Test for Admission to M.A. Economics

1. Which of the following does not represent elasticity of substitution?

- A) Proportionate Change in capital intensity due to proportionate change in $MRTS_{LK}$
- B) Proportionate change in capital intensity due to proportionate change in relative factor prices?
- C) Proportionate change in capital intensity due to proportionate change in relative Marginal productivity of factor.
- D) Proportionate change in capital labour ratio due to Proportionate change in inputs.

2. The Haavelmo Theorem is popularly known as:

- A) Income Multiplier
- B) Employment Multiplier
- C) Foreign Trade Multiplier
- D) Balanced Budget Multiplier

3. On which of the following argument Keynes agree with classical?

- A) Labour Supply Function
- B) Labour Demand Function
- C) Wage Price Flexibility
- D) Interest rate as real phenomenon.

4. The F-statistics in OLS estimation is the test of

- A) Significance of individual regression coefficients
- B) Goodness of fit in the model
- C) Significance of variance of the dependent variable
- D) Significance of the variance of independent variable.

5. Which one of the following is not a formula of measuring correlation coefficient?

A) $b_{yx} \times b_{xy}$

B) $r_{xy} = \frac{\sigma_x}{\sigma_y} b_{yx}$

C) $r_{xy} = \frac{\sigma_{xy}}{\sigma_x \times \sigma_y}$

D) $r_{xy} = \frac{\sigma_{xy}}{\sigma_x^2 \times \sigma_y^2}$

6. Look at this series: 53, 53, 40, 40, 27, 27,... What number should come next?

- A) 12
- B) 14
- C) 27
- D) 53

7. Look at this series: 15, __, 27, 27, 39, 39,... What number should fill the blank?

- A) 51
- B) 39
- C) 23
- D) 15

8. NITI Aayog has replaced

- A) Finance Commission of India
- B) Planning Commission of India
- C) Reserve Bank of India
- D) Ministry of Finance

9. Chelliah Committee was appointed for

- A) Fiscal reforms
- B) Monetary reforms
- C) Agricultural reforms
- D) Industrial reforms

10. Adolph Wagner gave a model of

- A) Industrial Location
- B) Agricultural Transformation
- C) Public Expenditure
- D) Correlation

Sample Question Paper for Entrance Test for Admission to Masters of Social Work

1. What is cultural lag?
 - a) It is gap between materialistic and non-materialistic aspects of culture of a society.
 - b) It is a state of equilibrium between materialistic and non-materialistic aspects of culture of a society.
 - c) It is a gap between the cultures.
 - d) None of the above
2. Urbanism is way of life, whereas urbanisation is a process
 - a) Burgess
 - b) Wirth
 - c) Murdock
 - d) MacIver
3. Sex ratio of females per 1000 males in India according to 2011 census is
 - a) 927
 - b) 940
 - c) 933
 - d) 942
4. Types of mobility occurred due to the change of job without status change is known as.....
 - a) vertical mobility
 - b) open system mobility
 - c) horizontal mobility
 - d) inter-generational mobility
5.said "We are also human being in 1927."
 - a) Dr. B.R. Ambedkar
 - b) Swami Vivekananda
 - c) Mahatma Gandhi
 - d) Jawahar Lal Nehru
6. Who is known as 'the father of local self-government' in India?
 - a) Mahatma Gandhi
 - b) Jawaharlal Nehru
 - c) Lord Ripon
 - d) Lord Canning
7. Honour killing unfortunately is practiced
 - (a) In India only
 - (b) In developing countries only
 - (c) Across the world
 - (d) In developed countries
8. Teachers Day is observed on the birthday of:
 - (a) Mahatma Gandhi
 - (b) Jawaharlal Nehru
 - (c) Dr. Radha Krishnan
 - (d) Rabindranath Tagore
9. 'Mixed economy' refers to
 - (a) The promotion of agriculture as well as cottage and heavy industries
 - (b) The coexistence of public sector as well as private sector
 - (c) The coexistence of different economic classes
 - (d) None of these
10. R.T.I. stands for
 - (a) Right to Interest
 - (b) Right to Information
 - (c) Right to Investigation
 - (d) Right to Infrastructure
11. I.L.O. stands for
 - (a) International Labor Organization
 - (b) Indian Labor Organization
 - (c) Intra Labor Organization
 - (d) Institute Labor Organization
12. Largest Nationalized Bank of India is
 - (a) Bank of India
 - (b) Canara Bank
 - (c) Union Bank of India
 - (d) State Bank of India
13. Modern Device is used in
 - (a) Television
 - (b) Computer
 - (c) Car
 - (d) Radio
14. Domestic Violence Act came into action in
 - (a) 2004
 - (b) 2007
 - (c) 2006
 - (d) 2005
15. 10th December is celebrated as
 - (a) Human Right Day
 - (b) Elderly People Day
 - (c) Girl Child Day
 - (d) Mother's Day

**SAMPLE MULTIPLE CHOICE QUESTIONS FOR M.E. (CHEMICAL)& M.E. (CHEMICAL)
WITH SPECIALISATION IN ENVIRONMENTAL ENGINEERING**

Pick-up the correct option:

- One mole of Nitrogen at 8 bar and 600K is contained in a piston-cylinder arrangement. It is brought to 1 bar isothermally against a resisting pressure of 1 bar. The work done (in Joules) by the gas is
 - 30554
 - 10373
 - 4988.4
 - 4364.9
- For water at 300°C, it has a vapour pressure 8592.7 kPa and fugacity 6738.9 kPa. Under these conditions, one mole of water in liquid phase has a volume 25.28 cm³, and that in vapour phase 391.1 cm³. Fugacity of water (in kPa) at 9000 kPa will be
 - 6738.9
 - 6753.5
 - 7058.3
 - 900
- A dilute aqueous solution is to be concentrated in an evaporator system. High pressure steam is available. Multiple effect evaporator system is employed because.
 - total heat transfer area of all the effects is less than that in a single effect evaporator system
 - total amount of vapour produced per kg of feed steam in a multieffect system is much higher than in a single effect
 - boiling point elevation in a single effect system is much higher than that in any effect in a multieffect system.
 - heat transfer coefficient in a single effect is much lower than that in any effect in a multieffect system
- Minimum reflux ratio in a distillation column results in
 - Optimum number of trays
 - Minimum reboiler size
 - Maximum condenser size
 - Minimum number of trays
- An elementary liquid phase decomposition reaction $A \xrightarrow{k} 2B$ is to be carried out in a CSTR. The design equation is
 - $k\tau = \frac{X_A}{(1 - X_A)}$
 - $k\tau = X_A \frac{(1 - X_A)}{1 - X_A}$
 - $k\tau = \frac{X_A}{(1 - X_A)^2}$
 - $k\tau C_{AO} = \frac{X_A / (1 - X_A)^2}{(1 - X_A)^2}$
- Match the following dimensionless numbers with the appropriate ratio of forces.

	Dimensionless Number	Ratio of forces
P	Froude Number	1. Shear force/internal force
Q	Reynolds Number	2. Convective heat transfer/conductive heat transfer
R	Friction Factor	3. Gravitational force/viscous force
S	Nusselt Number	4. Inertial force/viscous force
		5. Inertial force/ gravitational force

 - P-1, Q-2, R-5, S-3
 - P-5, Q-4, R-3, S-2
 - P-5, Q-4, R-1, S-2
 - P-3, Q-4, R-5, S-1
- A process stream of dilute aqueous solution flowing at the rate of 10 Kg s⁻¹ is to be heated. Steam condensate at 95°C is available for heating purpose, also at a rate of 10 kgs⁻¹. A 1-1 shell and tube heat exchange is available. The best arrangement is

- (a) counterflow with process stream on shell side
 - (b) counterflow with process stream on tube side
 - (c) parallel flow with process stream on shell side
 - (d) parallel flow with process stream on tube side
8. The Reynolds Number of the liquid was increased 100 fold for a laminar falling film used for gas-liquid contacting. Assuming penetration theory is applicable, the fold-increase in the mass transfer coefficient (k_c) for the same system is:
- (a) 100
 - (b) 10
 - (c) 5
 - (d) 1
9. A closed-loop system is stable when the gain margin is:
- a. >1
 - b. <1
 - c. 1
 - d. Zero
10. The aerosols important in air pollution range from:
- e. 0.01 to 100 μm
 - f. 100 μm to 100 μm
 - g. 0.001 μm to 0.01 μm
 - h. $<0.001 \mu\text{m}$
11. The order of convergence in Newton-Raphson method is:
- i. 2
 - j. 3
 - k. 0
 - l. 1
12. Runge-Kutta method is used to solve:
- m. linear algebraic equations
 - n. linear simultaneous equations
 - o. ordinary differential equations of first order and first degree with given initial condition
 - p. partial differential equations

SAMPLE QUESTIONS FOR M.E. (FOOD TECHNOLOGY)

- | | |
|--|--|
| <p>1. The limiting value of Sherwood number for mass transfer from a spherical object is equal to</p> <ul style="list-style-type: none"> (A) 2 (B) 3 (C) 4 (D) 0.5 <p>2. The primary protein in milk is</p> <ul style="list-style-type: none"> (A) casein (B) tryptophan (C) lysine (D) glutenin <p>3. Percentage of fat in butter is</p> <ul style="list-style-type: none"> (A) 50 (B) 60 (C) 70 (D) 80 <p>4. The power consumed by a drum dryer depends upon</p> <ul style="list-style-type: none"> (A) Drum speed (B) Steam Pressure (C) Pressure exerted by the blade on the drums (D) Length and diameter of the drum | <p>5. Freeze drying time is directly proportional to the _____ of the material being dried.</p> <ul style="list-style-type: none"> (A) thickness (B) square of the thickness (C) cube of thickness (D) fourth power of thickness <p>6. With increase in concentration of solute in a solution, boiling point</p> <ul style="list-style-type: none"> (A) decreases (B) increases (C) remains constant (D) none of these <p>7. The major forces acting in cyclone separator are</p> <ul style="list-style-type: none"> (A) gravity and centrifugal (B) gravity and centripetal (C) centrifugal and centripetal (D) None of these <p>8. Ultra filtration is used for production of</p> <ul style="list-style-type: none"> (A) Butter |
|--|--|

- (B) Ghee
(C) Cheese
(D) Ice-cream
9. Vacuum packaging is normally used for
(A) milk powder
(B) paneer
(C) yoghurt
- (D) None of these
10. The water activity of free water should be
(A) 1
(B) less than one
(C) more than one
(D) 0

SAMPLE QUESTIONS FOR M.TECH. (POLYMER)

Pick-up the correct option:

- Polymer formed in cationic Polymerization has
a) narrow molecular weight distributions
b) medium molecular weight distributions
c) broad molecular weight distributions
d) general isotactic structure
- Thermokol is the trade name of
a) high impact polystyrene
b) general purpose polystyrene
c) acrylonitrile-butadiene-styrene
d) expanded polystyrene
- The order of convergence in Newton-Raphson method is:
a) 2
b) 3
c) 0
d) 1
- Runge-Kutta method is used to solve:
a) linear algebraic equations
b) linear simultaneous equations
c) ordinary differential equations of first order and first degree with given initial condition
d) partial differential equations
- For an isotherm process, pressure, P and Bulk modulus, K is related as:
a) $K = P$
b) $K = \square P$
c) $K = P/\square$
d) $K = \square p^2$
- Which one of the following fluids is essentially a non-Newtonian fluid under normal working conditions?
a) blood
b) thin lubricating oil
c) water
d) air
- The pressure drop per unit length of a pipe under laminar flow condition is:
a) $\frac{32\mu V_{av}}{d^2}$
b) $\frac{128\mu Q}{\pi d^4}$
- c) either (a) or (b)
d) none of these
- The LMTD correction factor F_T :
a) increases with decrease in number of shell passes
b) increases with increase in number of shell passes
c) remains constant with the increase in number of shell passes
d) any one of the above, depending upon the type of exchanger.
- In case of a packed tower, HETP varies with:
a) type and size of packing
b) flow rate of each fluid
c) concentration of each fluid
d) all of above
- For a binary mixture at constant temperature, with the increase of total pressure, the relative volatility:
a) decreases
b) increases
c) remains constant
d) none of these
- An irreversible first order reaction is carried out in a PFTR and CSTR of same volume. The liquid flow rates are same in each reactor. The relative conversion will be:
a) less in pftr than in cstr
b) more in cstr than in pftr
c) less in cstr than in pftr
d) same in each reactor
- Grizzlies are used for screening solid particles of:
a) large size
b) small size
c) very small size
d) any one of the above

SAMPLE QUESTIONS FOR M.SC. (INDUSTRIAL CHEMISTRY)

PART-A : MATHEMATICS

- Q.1. If x be real, $\frac{x^2 + 342 - 71}{x^2 + 2x - 7}$ can have no value between
- (3,7)
 - (4,8)
 - (5,9)
 - (10,15)
- Q.2. The set of equation $x + y - 2z = 0$, $2x - 3y + z = 0$, $x - 5y + yz = k$ is consistent for
- $K = 0$
 - $K = 1$
 - $K = 2$
 - $K = 5$
- Q.3. If $U = \frac{x^4 + y^4}{x + y}$, show that $x \frac{\partial U}{\partial x} + y \frac{\partial U}{\partial y}$ is equal to
- U
 - $2 U$
 - $3 U$
 - $5 U$

PART-B: PHYSICS

- Q.4. Out of $\vec{F}_m$, $\vec{V}$ and $\vec{B}$ in the relation $\vec{F}_m = q (\vec{V} \times \vec{B})$ which of the following pairs can have any angle between them.
- $\vec{V}$ and $\vec{B}$
 - $\vec{F}$ and $\vec{V}$
 - $\vec{F}_m$ and $\vec{B}$
 - None of the above
- Q.5. A body under the action of inverse square force will follow an elliptical path, if eccentricity
- $e=0$
 - $e=1$
 - $e>1$
 - $e<1$ (Positive)
- Q.6. If $\vec{B} = \text{curl } \vec{A}$, then
- $\vec{\nabla} \cdot \vec{B} = 0$
 - $\vec{\nabla} \cdot \vec{B} = 1$
 - $\vec{\nabla} \cdot \vec{B} = A$
 - $\vec{\nabla} \cdot \vec{B} = -1$

PART-C : CHEMISTRY

- Q.7. The IUPAC name for $\text{CH}_3\text{CH}_2 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{OCH}_3$ is
- methyl propanoate
 - Propanedioic acid
 - 2-propanol-1-ol
 - 3-oxo-1-methyl butane

- Q.8. The number of NMR signals for the compound $\text{CH}_3\text{OCH}_2\text{CH}_3$ is
 (a) One signal (singlet)
 (b) Two signals (one singlet, one multiple)
 (c) Three signals (singlets)
 (d) Three signals (singlet, quartet, triplet)
- Q.9. When Propane is treated with HBr in the presence of a peroxide
 (a) Bromopropene is formed
 (b) n-propyl bromide
 (c) Allyl bromide is formed
 (d) None of these

PART-D : INDUSTRIAL CHEMISTRY

- Q.10. The Fourier number (N_{Fo}) is defined as
 (a) tL^2/α
 (b) hL/k
 (c) $\alpha t/L^2$
 (d) hk/L
- Q.11. Baffles are provided in the heat exchanger to increase
 (a) fouling factor
 (b) heat transfer area
 (c) heat transfer coefficient
 (d) heat transfer rate
- Q.12. Relative volatility, α , for a binary system
 (a) decrease with increase in pressure
 (b) increase with increase in pressure
 (c) increase with increase in temperature at constant pressure.
 (d) has no significance in distillation operation

SAMPLE QUESTIONS FOR

ME Electrical Engg. (Instrumentation & Control) Regular programme

- Which term applies to the maintaining of a given signal level until the next sampling?
 1. Holding
 2. Aliasing
 3. Shannon frequency sampling
 4. Stair-stepping
- What does a Hall Effect sensor sense?
 A) Temperature
 B) Moisture
 C) Magnetic fields
 D) Pressure
- Two copper-constantan thermocouples are connected such that the two constantan wires are joined together. The two copper wires are connected to the input of a low noise chopper stabilized differential amplifier having a gain of 1000. One of the thermocouple junctions is immersed in a flask containing ice and water in equal proportion. The other thermocouple is at a temperature T. If the output of the amplifier is 2.050V, the temperature T is
 A) 205°C
 B) 102.5°C
 C) 51.25°C
 D) 50°C
- A second order feedback system is found to be oscillating with a high
- Addressing mode of the instruction-
 ORL A, @ R0 is:
 A) Direct
 A) Indirect
 C) Register
 D) Immediate
- Which type of programming is typically used for digital signal processors?
 A) Assembly language
 B) Machine language
 C) C
 D) None of the above
- A phase lag compensation coil
 A) Improves relative stability
 B) Increases bandwidth
 C) Increases overshoot
 D) None of the above
- Which one of the following is Programmable Interrupt Controller?
 A) 8257
 B) 8254
 C) 8255
 D) 8259
- RTDs are typically connected with other fixed resistors
 A) In a pi configuration
 B) In a bridge configuration
 C) And variable resistors

- frequency. The oscillations
- A) Can be reduced by increasing the proportional action.
- B) Can be reduced by increasing the integral action.
- C) Can be reduced by increasing the derivative action.
- D) Cannot be reduced.

10.

- D) And capacitors in a filter-type circuit
- For a first order instrument a 5% settling time is equal to
1. Three times the time constant.
 2. Two times the time constant.
- C) The time constant.
- D) Time required for the output signal to reaches 5% of the final value.

Sample Questions for

M.E. (Electronics and Communication Engineering) Regular Programme

1. Which rectifier requires four diodes?
 - A) half-wave voltage doubler
 - B) full-wave voltage doubler
 - C) full-wave bridge circuit
 - D) voltage quadrupler
2. If the input is a rectangular pulse, the output of an integrator is a
 - A) Sine wave
 - B) Square wave
 - C) Ramp
 - D) Rectangular pulse
3. The energy gap in a semiconductor
 - A) Increases with temperature
 - B) Does not change with temperature
 - C) Decreases with temperature
 - D) Is zero
4. The LASER diode sources require
 - A) Spontaneous emission
 - B) Absorption
 - C) Stimulated emission
 - D) None of the above
5. 2's complement representation of a 16-bit number (one sign bit and 15 magnitude bits) is FFFF. Its magnitude in decimal representation is
 - A) 0
 - B) 1
 - C) 32, 767
 - D) 65, 565
6. The Boolean function $Y=AB + CD$ is to be realized using only 2 input NAND gates. The minimum number of gates required is
 - A) 2
 - B) 3
 - C) 4
 - D) 5
7. Which device is considered a current controlled device:
 - A) Diode
 - B) Filed effect transistor
 - C) Transistor
 - D) Resistor
8. In an amplifier, the emitter junction is
 - A) Forward Biased
 - B) Reverse Biased
 - C) Grounded
 - D) Shorted
9. Unijunction Transistor has three terminals,
 - A) Cathode, Anode, Gate
 - B) Grid, Plate, Cathode
 - C) Base 1, Base 2, Emitter
 - D) Gate, Base 1, Base 2
10. GSM stands for
 - A) Global System for Mobile Communication
 - B) Global System for Multiplexing
 - C) Group System for Mobile Communication
 - D) None of these

Sample Questions for M.E. (Computer Science & Engineering) Regular Programme

1. Which of the following is the name of the data structure in a compiler that is responsible for managing information about variables and their attributes?
 - A) Abstract Syntax tree
 - B) Symbol Table
 - C) Variable value stack
 - D) Parse tree
2. Seven (distinct) car accidents occurred in a week. What is the probability that they all occurred on the same day?
 - A) $1/7^7$
 - B) $1/7^6$
 - C) $1/2^7$
 - D) $7/2^7$
3. Which of the following statements is false
 - A) As unambiguous grammar has same leftmost and rightmost derivation
 - B) An LL (1) parser is top down parser
 - C) LALR is more powerful than SLR
 - D) An ambiguous grammar can never be LR (k) for any k

4. What will be the output of the following program?
- ```
void main()
{int var 1 = 10, var2 = 20, var3;
Var3 = var1++ + ++var2;
Printf("%d%d%d", var1, var2, var3);}
```
- A) 10 20 30                      B) 11 21 31  
C) 10 21 30                      D) 11 21 30
5. Which of the following data structures will allow mergesort to work in  $O(n \log n)$  time?
- A singly linked list
  - A doubly linked list
  - An array
- A) III only  
B) I and II only  
C) II and III only  
D) I, II and III
6. In the internet Protocol (IP) suite of protocols, which of the following best describes the purpose of the Address Resolution Protocol?
- A) To translate Web addresses to host names  
B) To determine the IP address of a given host name  
C) To determine the hardware address of a given host name  
D) To determine the hardware address of a given IP address
7. The binary relation  $R = \{ (1,1), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4) \}$  on the set  $A = \{1,2,3,4\}$  is:
- A) reflexive, symmetric and transitive  
B) neither reflexive, nor irreflexive but transitive  
C) irreflexive, symmetric and transitive  
D) irreflexive and antisymmetric
8. Consider the following statements:
- First-in first-out types of computations are efficiently supported by STACKS
  - Implementing LISTS on linked lists is more efficient than implementing LISTS on an array for almost all the basic LIST operations
  - Implementing QUEUES on a circular array is more efficient than implementing QUEUES on a linear array with two indices
  - Last – in – first – out type of computations are efficiently supported by QUEUES
- A) (ii) and (iii) are true  
B) (i) and (ii) are true  
C) (iii) and (iv) are true  
D) (ii) and (iv) are true
9. A binary search tree is generated by inserting in order of following integers  
50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24  
The number of nodes in the left subtree and right subtree of the root respectively is
- A) (4, 7)  
B) (7, 4)  
C) (8, 3)  
D) (3, 8)
10. A directed graph with  $n$  vertices and  $e$  edges are represented by Adjacency matrix. What is the time required to determine the in-degree of a vertex?
- A)  $O(e)$   
B)  $O(n)$   
C)  $O(n^2)$   
D)  $O(e+n)$

### Sample Questions for

#### ME Civil Engineering (Construction Technology & Management) Regular Programme

- Q.1. Mass moment of inertia of a uniform thin rod of mass M and length (l) about its mid-point and perpendicular to its length is
- (a)  $\frac{2}{3} MI^2$  (b)  $\frac{1}{3} MI^2$  (c)  $\frac{3}{4} MI^2$  (d)  $\frac{4}{3} MI$
- Q.2. The point of contraflexure is a point where
- (a) Shear force changes sign (b) Bending moment changes sign  
(c) Shear force is maximum (d) Bending moment is maximum
- Q.3. In order to avoid tendency of separation at throat in a venturimeter, the ratio of the diameter at throat to the diameter of pipe should be
- (a)  $\frac{1}{16}$  to  $\frac{8}{8}$  (b)  $\frac{1}{8}$  to  $\frac{1}{4}$  (c)  $\frac{1}{4}$  to  $\frac{1}{3}$  (d)  $\frac{1}{3}$  to  $\frac{1}{2}$
- Q.4. The main cause of silting in channel is
- (a) Non-regime section (b) Inadequate slope  
(c) Defective head regulator (d) All of these
- Q.5. Weight of a vehicle affects
- (a) Passing sight distance (b) Extra widening  
(c) Pavement thickness (d) Width of lanes
- Q.6. The difference between maximum void ratio and minimum void ratio of a sand sample is 0.30. If the relative density of this sample is 66.6% at a void ratio of 0.40 then the void ratio of this sample at its loosest state will be
- (a) 0.40 (b) 0.60 (c) 0.70 (d) 0.75
- Q.7. The diagonal tension in concrete can be resisted by providing
- (a) Diagonal tension reinforcement (b) Shear reinforcement  
(c) Inclined tension reinforcement (d) All these
- Q.8. Rivet value is equal to
- (a) Strength of a rivet in shearing  
(b) Strength of a rivet in bearing  
(c) Minimum of the value obtained in (a) and (b)  
(d) Maximum of the value obtained in (a) and (b)
- Q.9. Rise and fall method is used in
- (a) Profile leveling (b) Differential leveling  
(c) Check leveling (d) Non of these
- Q. 10. The alkaline salt present in the bricks, absorbs moisture from the air which on drying
- (a) Leaves pores and makes the bricks porous  
(b) Leaves high powder deposit on the brick  
(c) Makes the brick brittle and weak  
(d) All of these

### Sample Questions for ME Mechanical Engineering (Manufacturing Technology) Regular Programme

- Q.1. An inertial frame of reference has  
(a) Fixed origin but directions of axes can change with time  
(b) Fixed origin as well as fixed directions of its axes  
(c) Fixed directions of axes but origin can change with time  
(d) Any of the above
- Q.2. Dimensional formula for Young's modulus of elasticity is  
(a)  $ML^{-1}T^{-2}$   
(b)  $MLT^{-2}$   
(c)  $M^{-1}L^{-1}T^{-1}$   
(d)  $ML^{-2}T^{-2}$
- Q.3. Which of the following processes would be best suited for stress relieving, improving machineability and ductility in casting and deep drawn components  
(a) Austempering  
(b) Tempering  
(c) Normalising  
(d) Annealing
- Q.4. The pressure intensity at a point in a fluid is same in all directions, only when  
(a) The fluid is frictionless  
(b) The fluid is frictionless and incompressible  
(c) The fluid has zero viscosity and is at rest
- Q.5. In orthogonal cutting, cutting face is inclined to the direction of cut at  
(a) 90 degree  
(b) Less than 90 degree  
(c) Between 30 and 45 degrees  
(d) Greater than 90 degree
- Q.6. In statistical quality control  $\pm 3\sigma$  means the percentage of items within acceptable limits will be:  
(a) 68.26  
(b) 95.46  
(c) 99.73  
(d) 50
- Q.7. In the specification of fits  
(a) Allowance is equal to twice the tolerance  
(b) Allowance is equal to half of tolerance  
(c) Allowance is independent of tolerance  
(d) Allowance is equal to the difference between maximum material limit mating parts.

**Sample paper M.E. Electrical Engineering (Power System)**

- Q.1** The maximum efficiency of a half-wave rectifier circuit can be  
 (A). 37.2%  
 (B). 40.6%  
 (C). 53.9%  
 (D). 81.2%
- Q.2** An overcurrent relay of current 5A and setting 150% is connected to the secondary of CT while CT ratio is 300:5. The current in the lines for which relay picks up is  
 (A) 300 A  
 (B) 450 A  
 (C) 150 A  
 (D) 200 A
- Q.3** A 100 mA meter has accuracy of  $\pm 2\%$ . Its accuracy while reading 50 mA will be  
 (A)  $\pm 1\%$   
 (B)  $\pm 2\%$   
 (C)  $\pm 4\%$   
 (D)  $\pm 20\%$
- Q.4** A 4-digit DVM(digital voltmeter) with a 100-mV lowest full scale range would have a sensitivity of how much value while resolution of this DVM is 0.0001  
 (A). 0.1 mV  
 (B). 0.01 mV  
 (C). 1.0 mV  
 (D). 10 mV
- Q.5** In a 4-bit weighted resistor D/A converter, the resistor value corresponding to LSB is 32 k $\Omega$ . The resistor value corresponding to MSB will be  
 (A). 32 $\Omega$   
 (B). 16 $\Omega$   
 (C). 8 $\Omega$   
 (D). 4 $\Omega$
- Q.6** For a two port linear passive bilateral network is  
 (A). AD=BC  
 (B). AD-BC=0  
 (C). AD-BC=1  
 (D). AB-BC=1
- Q.7** A distribution station has a peak load of 3000 kW and total annual energy of  $10^7$  kWh. The peak power loss is 220 kW. The loss factor is:  
 (A). 0.215  
 (B). 0.285  
 (C). 0.325  
 (D). 0.356
- Q.8** The load frequency response in a system  
 (A). Does consider the reactive power flow  
 (B). Does not consider the reactive power flow  
 (C). Does not consider the real power flow  
 (D). Consider Active power
- Q.9** For a synchronous phase modifier, the load angle is  
 (A).  $0^\circ$   
 (B).  $25^\circ$   
 (C).  $30^\circ$   
 (D).  $50^\circ$
- Q.10** A pilot exciter is:  
 (A). A level compound small DC generator  
 (B). A small servo type synchronous generator  
 (C). A main synchronous generator  
 (D). A main exciter

## M.Tech Material Science (Entrance Test)

- Use of calculator is not allowed

Q1. In a solid lattice the cation has left a lattice site and is located at an interstitial position, the lattice defect is

- A) Interstitial defect
- B) Frenkel Defect
- C) Schottky Defect
- D) Valency Defect

Q2. The existence of energy bands in a solid is a consequence of

- A) Interaction of atoms
- B) Interference of electron waves
- C) Random motion of electrons
- D) Effective mass of electron

Q3. Two sources of light are said to be coherent if waves produced by them have the same

- A) Frequency
- B) Amplitude
- C) Amplitude and same wavelength
- D) Frequency and constant phase difference

Q4. Beautiful colours of oil films and soapy water are due to

- A) Interference
- B) Diffraction
- C) Polarisation
- D) Compton effect

Q5. Which elements have non bonding electrons

- A) Elements with lone pair
- B) Electronegative elements
- C) Both of them
- D) None of them

Q6. Enzyme-substrate kinetics can be studied via

- A) Stern Volmer plots
- B) DFT calculation
- C) Michaelis Menten Kinetics
- D) none of the above

Q7. Which of the following is an aromatic amino acid

- A) Tyrosine
- B) Glutamic acid
- C) Arginine
- D) Cystenine

Q8. The region between the curve  $y = \sqrt{x}$ ,  $0 \leq x \leq 4$ , and the x-axis is revolved about the x-axis to generate the solid. Find its volume.

- A)  $2\pi$  (B)  $4\pi$
- C)  $6\pi$  (D)  $8\pi$

Q9. Find the flux of  $\vec{F} = (x - y)\hat{i} + x\hat{j}$  across the circle  $x^2 + y^2 = 1$  in the xy-plane.

- A) 0
- B) 1
- C)  $\pi$
- D) (d)  $-\pi$

Q10. In a skew symmetric matrix A, all diagonal element are \_\_\_\_\_

- A) 1
- B) 2
- C) -1
- D) 0

## Sample Questions for M.E. Biotechnology

1. Which of the following is not measure of central tendency.
  - a) Mean
  - b) Mode
  - c) Range
  - d) Median
2. Literature databases include.
  - a) MEDLINE and PubMed
  - b) MEDLINE and PDB
  - c) PubMed and PDB
  - d) MEDLINE and PDS
3. GenBank, the nucleic acid sequence database is maintained by
  - a) Brookhaven Laboratory
  - b) DNA database of Japan
  - c) European Molecular Biology Laboratory
  - d) National Centre for Biotechnology Information
4. Which of the following are similar between transcription in prokaryotes and eukaryotes
  - a) RNA polymerase products in mRNA which grows in 5' - 3' direction
  - b) RNA polymerase bind to ribosomes to allow transcription
  - c) A poly-A tail is added to the 3' end of mRNAs
  - d) Introns are present in genes which are spliced out after transcription
5. Mitochondrial DNA is advantageous for evolutionary studies because:
  - a) It is inserted into the X chromosome
  - b) It is inherited only through female parent
  - c) It evolves more slowly than the genes in nucleus
  - d) It first appeared in humans and is not found in other animals
6. The lac operon in E coli is involved in
  - a) Regulating the expression of gene
  - b) Controlling DNA replication
  - c) Regulating the translation of mRNA
  - d) Controlling the formation of ribosome
7. Dimethyl sulfoxide (DMSO) is used as a cryopreservant for mammalian cell cultures because
  - a) It is organic solvent
  - b) It easily penetrates cells
  - c) It protects cells by preventing crystallization of water
  - d) It is also utilized as a nutrient
8. The helix content of a protein can be determined using
  - a) An infrared spectrometer
  - b) A fluorescence spectrometer
  - c) A circular dichroism spectrometer
  - d) A UV-Visible spectrophotometer
9. Frequency of a gene in a population will increase if the gene is
  - a) Lethal
  - b) Dominant
  - c) Recessive
  - d) Favorably selected

10.  $K_m$  is the substrate concentration at which

- a) The reaction rate is double of the maximum
- b) The reaction rate is one half of the maximum
- c) The enzyme is completely saturated with substrate
- d) The enzymatic reaction stops

11. Which of the following is a sequence alignment tool

- a) BLAST
- b) PRINT
- c) PROSITE
- d) PIR

12. Amino acid residue which is most likely to be found in the interior of water-soluble globular proteins is

- a) Threonine
- b) Aspartic acid
- c) Valine
- d) Histidine

Sample question paper ME(ECE)

1. The first and last critical frequency of an RC-driving point impedance must respectively, be
  - A. A zero and a pole
  - B. A zero and a zero
  - C. A pole and a pole
  - D. A pole and a zero
  
2. A continuous-time function  $x(t)$  is periodic with period  $T$ . The function is sampled uniformly with a sampling period  $T_s$ . In which one of the following cases is the sampled signal periodic?
  - A.  $T = \sqrt{2}T_s$
  - B.  $T = 1.2T_s$
  - C. Always
  - D. Never
  
3. The impulse response of an LTI system can be obtained by
  - A. Differentiating the unit ramp response
  - B. Differentiating the unit step response
  - C. Integrating the unit ramp response
  - D. Integrating the unit step response
  
4. The Fourier transform of a conjugate symmetric function is always
  - A. Imaginary
  - B. Conjugate antisymmetric
  - C. Real
  - D. Conjugate symmetric
  
5. The first six points of the 8-point DFT of a real valued sequence are 5,  $1-j3$ , 0,  $3-j4$ , 0 and  $3+j4$ . The last two points of the DFT are respectively
  - A. 0,  $1-j3$
  - B. 0,  $1+j3$
  - C.  $1+j3$ , 5
  - D.  $1-j3$ , 5
  
6. If the Laplace transform of a signal  $y(t)$  is  $Y(s) = \frac{1}{s(s-1)}$ , then its final value is
  - A. -1
  - B. 0
  - C. 1
  - D. Unbounded
  
7. Consider the sequence  $x[n] = a^n u[n] + b^n u[n]$ , where  $u[n]$  denotes the unit-step sequence and  $0 < |a| < |b| < 1$ . The region of convergence (ROC) of the z-transform of  $x[n]$  is
  - A.  $|z| > |a|$
  - B.  $|z| > |b|$
  - C.  $|z| < |a|$
  - D.  $|a| < |z| < |b|$

Sample question paper MTech (Micro-electronics)

1. A thin P-type silicon sample is uniformly illuminated with light which generates excess carriers. The recombination rate is directly proportional to
  - A. The minority carrier mobility
  - B. The minority carrier recombination lifetime
  - C. The majority carrier concentration
  - D. The excess minority carrier concentration
2. n-type Silicon is obtained by doping Silicon with
  - A. Germanium
  - B. Aluminium
  - C. Boron
  - D. Phosphorus
3. A region of negative differential resistance is observed in the current voltage characteristic of a silicon PN junction if
  - A. Both the P-region and the N-region are heavily doped
  - B. The N-region is heavily doped compared to the P-region
  - C. The P-region is heavily doped compared to the N-region
  - D. An intrinsic Silicon region is inserted between the P-region and the N-region.
4. A silicon PN junction is forward biased with a constant current at room temperature. When the temperature is increased by 10°C, the forward bias voltage across the PN junction
  - A. Increases by 60mV
  - B. Decreases by 60 mV
  - C. Increases by 25 mV
  - D. Decreases by 25 mV
5. The Ebers-Moll model of a BJT is valid
  - A. Only in active mode
  - B. Only in active and saturation modes
  - C. Only in active and cut-off modes
  - D. In active, saturation and cut-off modes
6. In IC technology, dry oxidation (using dry oxygen) as compared to wet oxidation (using steam or water vapour) produces
  - A. Superior quality oxide with a higher growth rate
  - B. Inferior quality oxide with a higher growth rate
  - C. Inferior quality oxide with a lower growth rate
  - D. Superior quality oxide with a lower growth rate
7. Under the DC conditions, the collector-to-emitter voltage drop is
  - A. 4.8 Volts
  - B. 6.0 Volts
  - C. 5.3 Volts
  - D. 6.6 Volts

### Sample Questions for M.E. (Mechanical Engineering)

1. Which one of the following is correct?  
In normal shock wave in one dimensional flow  
A) The entropy remains constant  
B) The entropy increases across the shock  
C) The entropy decreases across the shock  
D) The velocity, pressure, and density increase across the shock
  2. Which of the following are the limitation of the powder metallurgy?  
A) High tooling and equipment costs  
B) Wastage of material  
C) It cannot be automated  
D) Expensive metallic powders
- Select the correct answer using the code  
Code – 1) Only A and B  
Code – 2) Only B and D  
Code – 3) Only A and D  
Code – 4) Only A, B and D
3. Subcooling in the condenser of a refrigerator system is advisable when  
A) Expansion system is at a higher elevation value is at a higher  
B) There is a large pressure drop in the line connecting condenser to the expansion valve.  
C) The refrigeration effect is to be increased.  
D) The compressor work is to reduced  
Code – 1) Only A and B  
Code – 2) Only A, C and D  
Code – 3) Only B, C and D  
Code – 4) A, B and D
  4. An Orthotropic material under plane stress condition will have  
A) 15 independent elastic constants  
B) 5 independent elastic constants  
C) 6 independent elastic constants
  5. When dry bulb and thermodynamic wet bulb temperatures are same  
A) Humidity ratio is 100%  
B) Partial pressure of water vapour equal total pressure  
C) Air is fully saturated  
D) Dew point temperature is reached  
E) All of these  
F) None o these
  6. In a cooling tower, the minimum temperature to which water can be cooled is equal to the  
A) Dew point temperature of the air at the inlet  
B) Dry bulb temperature of the air at the inlet  
C) Thermodynamic wet bulb temperature of the air at the inlet  
D) Mean of the dew point and dry bulb temperature of the air at inlet

### Sample Questions for M.Com. ( Business Economics)

4. Accounting is the language of –  
E) Business  
F) Books of Accounts  
G) Accountant  
H) None of these
5. Which of the following is not included under accounting concepts?  
E) Money Measurement Concept  
F) Business Entity Concept  
G) Continuity Concept  
H) None of these
6. Which expenses is of Capital Nature?  
E) Depreciation  
F) Wages  
G) Salary  
H) Stationary
7. Dividend can be declared from –  
A) Revenue Profit  
B) Capital Profit  
C) Secret Reserve  
D) All of these
8. Privatization is the result of –  
A) Economic Compulsion  
B) Social Compulsion  
C) Global Compulsion  
D) Market Compulsion
6. An agreement enforceable by law is called –  
D) Voidable Contract  
E) Void Agreement  
F) Legal Agreement  
G) Valid Contract
7. The Sale of Goods Act came into force from –  
A) July 1, 1932  
B) July 1, 1930  
C) July 1, 1935  
D) July 1, 1940
8. The value of the variable which occurs most frequently in a distribution is called –  
A) Mode      B) Mean  
C) Median      D) All of these
9. The arithmetic mean of a series is the figure obtained by dividing the sum of values all items by  
A) 2      B) 3  
C) 3      D) Their Number
10. Which of the following is Business Averages?  
A) Moving average  
B) Progressive average  
C) Composite Average  
D) All of these

### M.Com (Master of Entrepreneurship and Family Business) (MEFB)

#### Part A: Verbal ability/Reasoning

1. Disease: Health:: Freedom : ?  
A) Slavery  
B) Pleasure  
C) Plight  
D) Beauty
2. If you are going to west in the afternoon, the sun will be visible at your left.  
A) Never  
B) Always  
C) Sometimes  
D) Often
3. Fill in the blank with the most suitable alternative. He shouted ..... at the subordinate.  
A) Loud  
B) Loudly  
C) Loudely  
D) Loudingly

#### Part B: General Knowledge

1. In which organ of the human body would you find a cluster of cells which produce insulin?  
A) Bile  
B) Liver  
C) Pancreas  
D) Brain
2. Which area in India is the only breeding ground of the flamingo?  
A) Rann of Kutch  
B) North East  
C) Himalayas  
D) Bay of Bengal
3. Which was the first Capital of Pakistan?  
A) Karachi  
B) Lahore  
C) Islamabad  
D) Peshawar
4. Which Olympic did Milkha Singh break the world record in the 400 metres event.  
A) Rome  
B) Athens  
C) Beijing  
D) None of the above
5. Kuchipudi is a dance form of  
A) Tamil Nadu  
B) Orissa  
C) Kerala  
D) None of the above

#### Part C: Data Interpretation

According to the survey of 2000 educated unemployed persons in which 1200 were men and 800 were women, the following data were collected.

| Qualification    | Unemployed Men | Unemployed Women |
|------------------|----------------|------------------|
| Doctors          | 12.5%          | 15%              |
| Engineers        | 20.0%          | 7.5%             |
| Trained Teachers | 15.0%          | 22.5%            |
| Post-Graduates   | 22.5%          | 25.0%            |
| Graduates        | 30.0%          | 30.0%            |

1. On the basis of above Table, what is the difference between the number of unemployed men and women doctors?  
A) 20  
B) 30  
C) 40  
D) None of the above
2. What is the total number of unemployed Graduates?  
A) 425  
B) 475  
C) 550  
D) 600
2. The value of the variable which occurs most frequently in a distribution is called  
A) Mode  
B) Mean  
C) Median  
D) All of these
3. The arithmetic mean of a series is the figure obtained by dividing the sum of values all items by  
A) 2  
B) 3  
C) 5  
D) Their Number
4. Which of the following is Business Averages?  
A) Moving average  
B) Progressive average  
C) Composite Average  
D) All of these

#### Part D: Commerce/ Economics

1. The sale of goods Act came into force from –  
A) July 1, 1932  
B) July 1, 1930  
C) July 1, 1935  
D) July 1, 1940

### Sample Questions for M.Com. (Honours)

1. Which of the following presents key aspects of the process of accounting in the correct chronological order?
  - A) Communicating, recording and identifying
  - B) Recording, identifying and communicating
  - C) Recording, totaling and identifying
  - D) Identifying, recording and communicating
- Which of the following is not a function of controller?
  - A) Financial reporting
  - B) Managerial reporting
  - C) Money management
  - D) Cost management
- Ending finished goods inventory is:
  - A) Beginning finished goods inventory + cost of goods completed – cost of goods sold
  - B) Cost of goods completed – cost of goods sold
  - C) Beginning finished goods inventory + cost of goods completed
  - D) Beginning finished goods inventory - cost of goods completed + cost of goods sold
- Which of the following is also known as an inventoriable cost?
  - A) Period cost
  - B) Fixed cost
  - C) Product cost
  - D) Conversion cost
- A cost management tool that brings in its focus the activities performed to produce a product is called
  - A) target costing
  - B) life cycle costing
  - C) ABC
  - D) benchmarking
- The first Factories Act was enacted in
  - A) 1881
  - B) 1895
  - C) 1897
  - D) 1885
- If the date of incorporation of a company is 1/01/2005, the first AGM must be held before
  - A) 30/06/2006
  - B) 31/03/2006
  - C) 31/12/2005
  - D) 31/03/2005
- The 'right to information' under the RTI Act, 2005 includes the right to
  - A) Inspect works, documents, records
  - B) Take notes, extracts or certified copies of documents or records
  - C) Obtain information in form of printouts, diskettes, floppies, tapes video cassettes or in any other electronic mode or through printouts
  - D) All of the above
- Long term capital asset is an asset (other than financial securities) which is held by the assessee for more than
  - A) 36 months
  - B) 24 months
  - C) 12 months
  - D) 6 months
- When an oligopolist individually chooses its level of production to maximize its profits, it charges a price that is
  - A) more than the price charges by either monopoly or a competitive market
  - B) less than the price charges by either monopoly or a competitive market
  - C) more than the price charges by a monopoly and less than the price charges by a competitive market
  - D) less than the price charges by a monopoly and more than the price charges by a competitive market
- Suppose that the government increases its spending by 10 per cent and also increases taxes by 10 per cent. We would expect this policy to
  - A) Essentially have no effect on the level of national income
  - B) Have a contractionary effect on national income
  - C) Decrease the marginal propensity to save out of each extra pound of income
  - D) Have an expansionary effect on national income.
- The Government of India has decided to cover all districts of the country in National Rural Employment Guarantee Programme (NREGP)
  - A) up to January 1, 2008
  - B) up to March 31, 2008
  - C) with effect from April 1, 2008
  - D) with effect from April 1, 2009
- Reserve Bank of India calculates four components of money supply, M1, M2, M3, M4. Which one of the following statement is not correct?
  - A) M1 = currency with public + demand deposits with banks
  - B) M2 = M1 + post office savings deposit
  - C) M3 = M1 + M2
  - D) M4 = M3 + total post office deposits
- What is meant by the term functional management?
  - A) A system of business organization that is based on an individual having a wide range of skills needed to administer a business
  - B) A type of management that is based more on personality
  - C) A system that groups together various jobs and is organized by departments, sections, or functions
  - D) A system that supports a flat form of command chain
- Maslow, in his triangle of human needs, showed that
  - A) Having challenging new tasks is a basic human need
  - B) Money always motivates workers
  - C) Safety and security is a low order human need
  - D) Self-actualization is a high order human need

- A) 36 months  
B) 12 months  
C) 24 months  
D) 30 months
- The definition of 'Goods' under the Central Sales Tax Act, 1956 does not include
- A) Newspapers  
B) Standing crops  
C) Computer software  
D) Animals
- A rational person does not act unless
11. A) the action is ethical  
B) the action produces marginal costs that exceed marginal benefits  
C) the action produces marginal benefits that exceed marginal costs  
D) the action makes money for the person
- D) Workers will not give of their best unless they have good social events provided by the firm
18. The purpose of the Malcolm Baldrige National Quality Award is to
- A) Stimulate efforts to improve quality  
B) Recognize quality achievements of companies  
C) Publicize successful quality programs  
D) All of the above
19. The process of collecting information about the external marketing environment is
- A) Environmental management  
B) Environmental scanning  
C) Marketing management  
D) Marketing scanning
20. The correct components of the 7-S framework are
- A) Share values, synergy, systems, strategy, style, staff and structure  
B) Standards, strategy, style, staff skills, systems and security  
C) Structure, strategy, shared values, style, staff, skills and systems  
D) Strategy, synergy, shared value, standardization, skills staff and structure

#### Sample Questions for M.Com (Business Innovations)

- Q1) India first took part in the Olympic games in the Year
- A) 1920  
B) 1928  
C) 1972  
D) 1974
- Q2) Where is the headquarters of the Oil and Natural Gas Corporation
- A) Mumbai  
B) Dehradun  
C) Vadodara  
D) Digboi
- Q3) The working languages of the UNESCO is/are
- A) English only  
B) French only  
C) English and French  
D) English, French and Russian
- Q4) After textiles, India's second important industry is:
- A) Sugar  
B) Jute  
C) Cement  
D) Iron and Steel
- Q5) Vedanta group has been denied permission to start its activities in Niyamgiri Hills of Orissa. What activity was it pursuing?
- A) Steel Production  
B) Bauxite mining  
C) Gas exploration  
D) Timber cutting
- Q6) Botany: Plants::Entomology:? –
- Q7. 48:122::168:? –
- A) 292  
B) 290  
C) 225  
D) 215
- Q8) AKU:?:CMW:DNX
- A) BGL  
B) BLQ  
C) BGQ  
D) BLV
- Q9) Flow: River::Stagnant: ?
- A. Pool  
B. Rain  
C. Stream  
D. Canal
- Q 10) A rectangular floor is fully covered with square tiles of identical size. The tiles on the edges are white and tiles in the interior are red. The number of white tiles is the same as the number of red tiles. A possible value of the number of tiles along the edge of the floor is
- A. 10  
B. 12  
C. 14  
D. 16

- A) Birds
- B) Plants
- C) Insects
- D) Snakes

### Sample Questions for MBACIT

- 1 C. V. Raman won the Noble Prize for
  3. Bioscience
  4. Chemistry
  5. Economics
  6. Physics
- 2 A.P.J. Abdul Kalam's autobiography is titled
  - A) Ignited minds
  - B) The Argumentative Indian
  - C) The Alchemist
  - D) Wings of Fire
- 3 SEZ Stands for
  - A) Special economic zone
  - B) Suez Canal
  - C) Select enterprise zone
  - D) Specific elite zone
- 4 A wheel makes 1000 revolutions in covering a distance of 88 Km. The diameter of the wheel is:
  - A) 24 meter
  - B) 40 meter
  - C) 28 meter
  - D) 14 meter
- 5 The difference between the ages of two persons is 10 Years. 15 Years ago, if the elder one was twice as old as the younger one, their present ages are
  - A) 35, 25
  - B) 45, 35
  - C) 33, 23
  - D) 30, 20
- 6 The sale of Goods Act came into force from –
  - A) July 1, 1932
  - B) July 1, 1930
  - C) July 1, 1935
  - D) July 1, 1940
7. The value of the variable which occurs most frequently in a distribution is called –
  - A) Mode
  - B) Mean
  - C) Median
  - D) All of these
8. The arithmetic mean of a series is the figure obtained by dividing the sum of values all items by
  - E) 2
  - F) 3
  - G) 5
  - H) Their Number
9. Which of the following is Business Averages?
  - A) Moving average
  - B) Progressive average
  - C) Composite Average
  - D) All of these
10. Which type of software is focused on supporting communication, collaboration and coordination?
  - A) Groupware
  - B) CRM software
  - C) E-business software
  - D) SCM software
11. When discussing email security, what is a Trojan Horse?
  - A) A code hidden in another useful program, which has a destructive function of some sort
  - B) The barrier or firewall through which all incoming email must pass.
  - C) Small computer program snippets that are designed to do some harm on their host
  - D) A destructive program that can spread itself automatically from one computer to the next within an email

### Sample Questions for M.B.A. for Executives (MBAfEX)

#### Component 1: General Knowledge

1. In which organ of the human body would you find a cluster of cells which produce insulin?
  - A) Bile
  - B) Liver
  - C) Pancreas
  - D) Brain
2. Which area in India is the only breeding ground of the flamingo?
  - A) Rann of Kutch
  - B) North East
  - C) Himalayas

- D) Bay of Bengal
3. Which was the first Capital of Pakistan?  
 A) Karachi  
 B) Lahore  
 C) Islamabad  
 D) Peshawar
4. Which Olympic did Mikha Singh break the world record in the 400 meters event?  
 A) Rome  
 B) Athens  
 C) Beijing  
 D) None of the above
5. Kuchipudi is a dance form of  
 A) Tamil Nadu  
 B) Orissa  
 C) Kerala  
 D) None of the above

**Component II: Economic and Business Environment Awareness**

1. A mixed economy is necessarily a \_\_\_\_\_ economy.  
 A) Controlled  
 B) Planned  
 C) Organised  
 D) None of the above
2. Which of the following internal factors influence the strategy and other decisions of the business?  
 A) Value System  
 B) Mission and objective  
 C) Management structure and nature  
 D) None of the above
3. Environment is synonymous with \_\_\_\_\_  
 A) Task  
 B) Relations  
 C) People  
 D) Situational variables
4. Which is the full form of NTC?  
 A) National Thermal Corporation  
 B) National Textile Corporation  
 C) Non-Textile Corporation  
 D) None of the above
6. In which sector Indian Economy is growing at faster rate in 21<sup>st</sup> century (after 2000) \_\_\_\_\_  
 A) Service  
 B) Agriculture  
 C) Manufacturing  
 D) Public

**Component III: Data Interpretation and Problem Solving**

According to the survey of 2000 educated unemployed persons in which 1200 were men and 800 were women, the following data were collected.

| Qualification    | Unemployed Men | Unemployed Women |
|------------------|----------------|------------------|
| Doctors          | 12.5%          | 15%              |
| Engineers        | 20.0%          | 7.5%             |
| Trained Teachers | 15.0%          | 22.5%            |
| Post-Graduates   | 22.5%          | 25.0%            |
| Graduates        | 30.0%          | 30.0%            |

1. On the basis of above Table, what is the difference between the number of unemployed men and women doctors?  
 A) 20  
 B) 30  
 C) 40

- D) None of the above
2. What is the total number of unemployed Graduates?
    - A) 425
    - B) 475
    - C) 550
    - D) 600
  3. What is the total number of Engineers?
    - A) 300
    - B) 350
    - C) 360
    - D) 400
  4. In which category, unemployed men are more in percentage than unemployed women
    - A) Doctors
    - B) Engineers
    - C) Post Graduates
    - D) Graduates

#### Component IV: Numerical Ability

1. How many pillars are needed to construct a bridge of 300 meters long, if pillars are at a distance of  $12\frac{1}{2}$  meters each?
  - A) 22
  - B) 24
  - C) 25
  - D) None of the above
2. If  $5 \times 8 = 28$ ,  $3 \times 7 = 12$ ,  $8 \times 6 = 35$ , then find the value of  $13 \times 13 = ?$ 
  - A) 169
  - B) 130
  - C) 140
  - D) 144
3. The ratio of boys and girls in a is 3:2. 20% of boys and 25% of girls are scholarships holders. The percentage of students who are scholarship holders are:
  - A) 45
  - B) 53
  - C) 60
  - D) 22
4. In a class M is 9<sup>th</sup> from the top, S is 8<sup>th</sup> from the bottom and R is exactly in between them. If there are three children between M and R, find out the total students
  - A) 24
  - B) 25
  - C) 23
  - D) 27
5. 3, 5, 9, 17, 13, \_\_\_\_\_
  - A) 44
  - B) 65
  - C) 64
  - D) 49

#### Component V: Verbal Ability and Reasoning

1. Disease : Health :: Freedom : ?
  - A) Slavery
  - B) Pleasure
  - C) Plight
  - D) Beauty
2. If you are going to west in the afternoon, the sun will be visible at your left.
  - A) Never
  - B) Always
  - C) Sometimes
  - D) Often

3. Fill in the blank with the most suitable alternative. He shouted \_\_\_\_\_ at the subordinate.
  - A) Loud
  - B) Loudily
  - C) Loudely
  - D) Loudingly
4. J, F, M, A, M, ?
  - A) M
  - B) J
  - C) D
  - D) S
5. In a military code CAUTION is coded as VACITNO. How will you uncode MISUNDERSTAND?
  - A) SIMUNEDSRTAND
  - B) SIMNUEDSRATDN
  - C) SMIUNDERSTAND
  - D) None of the above

#### Component VI: English Comprehension

The most important reason for this state of affairs, perhaps, is that India was the only country in the world to truly recognize the achievements of the Soviet-Union-rather than merely focus on the de-bilitating faults that Communism brought to its people. The people of India realized that the achievement of one hundred per cent literacy in a country much, much larger than its own and with similarly complicated ethnic and religious groupings, the rapid industrialization of a nation that was a primarily agrarian society when the Bolshevik revolution took place in 1917; the attendant revolutionary steps in science and technology, the accessibility of health care (primeval according to Western standards, perhaps, but not according to India ones) to the general population, and despite prohibition of the government of the time the vast outpourings in literature, music, art, etc., are momentous and remarkable feats in any country.

In contrast, all that the West focused on were the massive human rights violations by the Soviet State on its people, the deliberate uprooting, and mass migrations of ethnic peoples from one part of the country to another in the name of industrialization, the end of religion in short, all the tools of information were employed to condemn the ideology of Communism, so much at variance with capitalist thinking.

The difference with the Indian perception, I think here is, that while the Indians reacted as negatively to what the Soviet governments did to its people in the name of good governance (witness the imprisonment of Boris Pasternak and the formation of an intentional committee to put pressure for his release with Jawaharlal Nehru at its head), they took the pain not to condemn the people of that broad country in black and white terms; they understood that mingled in the shades of gray were grains of uniqueness. (The Russians have never failed that characteristic in themselves; they have twice experimented with completely different ideologies, Communism and Capitalism both in the space of century).

1. Which of the following statements according to the passage is correct?
  - (a) India took heed "On the week faults of Russian policies and system.
  - (b) India seriously commended the achievement of Russian, i.e. cent per cent literacy and rapid industrialization.
  - (c) The process of industrialization had already started when Russian revolution took place in 1917.
  - (d) The literature, art and music received a setback during the communist regime in Russia.
2. The West did not focus on:
  - (a) Rapid growth of nuclear weapons in Russia
  - (b) Massive human rights violation by the Soviet state on its people.
  - (c) Deliberate uprooting and mass migration of ethnic people in the name of industrialization.
  - (d) Both (b) and (c)
3. The Indian perception of the USSR was always
  - (a) Negative
  - (b) Neutral
  - (c) Counter – reactionary
  - (d) Applauding
4. The passage is
  - (a) Descriptive
  - (b) Paradoxical
  - (c) Analytical
  - (d) Thought provoking

### Sample Questions for M.P. Ed.

- India played hockey for the first time on Olympic Games in:  
A) 1924, Paris (France)  
B) 1928, Amsterdam  
C) 1932, Los Angles (USA)  
D) 1938, Berlin (Germany)
- "A state of complete physical mental and social wellbeing and not merely the absence of disease or infirmity". This statement which defines health is given by:  
A) UNESCO B) UNICEF  
C) WHO D) Red Cross
- Three of the following are alike in a certain way and so they form a group. Which is the one does not belong to the group?  
A) Basketball  
B) Volleyball  
C) Hockey  
D) Table Tennis
- The Sacrum consists of:  
A) 3 Vertebraes  
B) 4 Vertebraes  
C) 5 Vertebraes  
D) 7 Vertebraes
- The chief sources of vitamin A is:  
A) Banana  
B) Egg  
C) Carrot  
D) Guava
- What is the stick used in snooker called:  
A) A Cue  
B) Heave  
C) Paddle  
D) Togo
- "Shivanthi Gold Cup" is associated with the game of:  
A) Hockey  
B) Football  
C) Volleyball  
D) Badminton
- What is the normal life span of RBC's?  
A) 60 days  
B) 90 days  
C) 120 days  
D) 150 days
- Chronological age is calculated with the help of  
A) Mental qualities  
B) X-rays  
C) Calendar Years  
D) Organs and secretions
- YMCA College of Physical Education (Madras) was established in:  
A) 1956  
B) 1920  
C) 1931  
D) 1932

### Sample Questions for B.P. Ed.

- The 'Santosh Trophy' tournament first began in:  
A) 1940 B) 1941  
C) 1942 D) 1945
- Who is the first teacher of a child?  
A) Teacher  
B) His Parents  
C) His environment  
D) His own conscious mind
- The first Modern Olympic games were held in the Year:  
A) 1892  
B) 1896  
C) 1900  
D) 1904
- Find the odd personality:  
A) Baichung Bhutia  
B) Kapil Dev  
C) Pete Sampras  
D) Jarnail singh
- Which of the following tournaments is not a part of Grand Slam Tennis?  
A) Australian Open  
B) Wimbledon  
C) U.S. Open  
D) German Open
- Which one of the following is different from the rest of the three?  
A) Football  
B) Basketball  
C) Cricket  
D) Tennis
- The name of 'Tiger Woods' is associated with:  
A) Boxing  
B) Tennis  
C) Football  
D) Golf
- Thomas Cup' is associated with:  
A) Badminton (women)  
B) Badminton (men)  
C) Table Tennis (women)  
D) Table Tennis (men)
- Most important component of level of living is?  
A) Health  
B) Occupation  
C) Education  
D) Housing
- Vinay is taller than Manu, but not as tall as Yogesh, Karim is taller than Dillip but shorter than Manu, Who is the tallest among them?  
A) Vinay  
B) Yogesh  
C) Karim  
D) Manu

### Sample Questions for M.Sc. Biochemistry

1. In mammals nor-epinephrine is synthesized from:
  - A) Pyruvate
  - B) Arginine
  - C) Catechol
  - D) Tyrosine
2. Hyperglycemic agent secreted by the pancreas is:
  - A) Insulin
  - B) Lipase
  - C) Glucagon
  - D) FSH
3. Feeding of raw egg may result in the deficiency of:
  - A) Vitamin A
  - B) Choline
  - C) Biotin
  - D) Riboflavin
4. What role RNA plays in the replication of DNA:
  - A) It acts as template
  - B) It acts as primer
  - C) It acts as cofactor
  - D) It is essential activator of DNA polymerase
5. Which of the following is not involved in antigen – antibody binding:
  - A) Hydrogen bonds
  - B) Ionic Bonds
  - C) Hydrophobic Interactions
  - D) Disulphide Bonds
6. The movement of ions through ion channels can be measured with the help of:
  - A) Extra cellular electrode
  - B) Intra cellular electrode
  - C) Patch – clamp technique
  - D) Liposome fusion technique
7. The synthesis of most neuronal proteins occurs in the:
  - A) Cell body
  - B) Axon
  - C) Synapses
  - D) Dendrites
8. Which of the following amino acid does not form peptide bond:
  - A) Cysteine
  - B) Proline
  - C) Lysine
  - D) Glycine
9. Lysozyme is an enzyme which:
  - A) Hydrolyses bacterial cell wall
  - B) Is made up of RNA
  - C) Contains phospholipids
  - D) Breaks lipoproteins
10. Formation of uric acid from purines is catalysed by:
  - A) Urease
  - B) Uricase
  - C) Xanthine oxidase
  - D) Adenosine deaminase

### Sample Questions for M.Sc. Biophysics

- If A & B are vectors, then
  - Vector A and B are perpendicular to each other.
  - Vector A and B are necessarily parallel.
  - Vector A and B must be antiparallel.
  - Vector A and B may be parallel or antiparallel.
- The minimum charge on a body can be:
  - one coulomb
  - one stat coulomb
  - $1.6 \times 10^{-19}$  coulomb
  - $3.2 \times 10^{-19}$  coulomb
- The potential due to an electric dipole varies
  - inversely as the distance
  - directly as the distance
  - inversely as the square of distance
  - directly as the square of distance
- Which of these techniques does not give information about the dimensions of DNA molecule?
  - Viscosity measurement
  - light scattering
  - flow-birefringence
  - Atomic Absorption spectroscopy
- Fluorescence of a protein can be due to
  - tryptophan
  - tyrosine
  - phenylalanine
  - all the above
- The aromatic amino acids are important because:
  - they are ionized by light of wavelength 280nm.
  - they are actually imino acids that cannot rotate through the angle phi.
  - they give proteins their absorbance at 280 nm
  - they are source of disulfide bonds within the exported proteins
- The Henderson-Hasselbalch equation states that:
  - $p^k = p^H + \log R$
  - $p^H = p^k + \log R$
  - $p^H = p^k - \log R$
  - $R = p^k - p^H$
- The proteins that run the fastest in SDS-PAGE are
  - Large
  - Small
  - Negatively charged
  - Positively charged
- The auditions  $a \neq b \neq c$ ,  $\alpha = \gamma = 90^\circ$   $\beta \neq 90^\circ$  describe the .....Unit cell
  - tetragonal
  - orthorhombic
  - monoclinic
  - trigonal
- The electromagnetic radiation with longest wavelength. is:
  - Visible Light
  - Radiowaves
  - Microwaves
  - IR
- Mass spectrometry is an analytical technique for the identification of molecules by way of measuring their:
  - mass only
  - charge only
  - mass to charge ratio
  - charge to mass ratio
- Micro array analysis is used for
  - quantization of gene expression
  - to check the quality of gene expression
  - for measuring the copy number
  - to identity new genes
- Component of atom involved in study of structure with X-ray crystallography
  - Nucleus
  - Electron
  - proton
  - Neutrons
- The radius of an atom is approximately
  - $10^{-10}$  m
  - $10^{-12}$  m
  - $10^{-13}$  m
  - $10^{-16}$  m
- Rays similar to x-rays but of smaller wavelength that are given off by radioactive Substances are
  - alpha rays
  - beta rays
  - gamma rays
  - cosmic rays
- Antiparticle of electron is
  - proton
  - Antiproton
  - Positron
  - Neutron
- Atomic force microscope was invented in which Year:
  - 1972
  - 1986
  - 2001
  - 1980
- Nucleic acid absorption ( $A_{260}$ ) changes in different states. It is maximum when it is:
  - Double stranded
  - Single stranded
  - All nucleotides are separated
  - Fragmented
- Which out of these is not a connective tissue:
  - Cartilage
  - bone
  - muscle
  - blood
- Which of these is not a characteristic of the Cardiac muscle:
  - nonstriated
  - Presence of intercalated disc
  - Involuntary
  - Presence of actin and myosin filaments.
- Fertilization occurs in which region of female reproductive part:
  - Infundibulum
  - ampulla
  - Isthmus
  - Uterus

11. Of the following which has got the highest frequency?
  - A) ultraviolet rays
  - B) gamma rays
  - C) radio waves
  - D) infrared waves
12. The value of atomic mass unit is:
  - A)  $1.66 \times 10^{-27}$  Kg
  - B)  $1.66 \times 10^{-28}$  Kg
  - C)  $1.66 \times 10^{-29}$  Kg
  - D)  $1.66 \times 10^{-24}$  Kg
13. The peptide bond in protein is
  - A) Planar, but rotates to three preferred dihedral angles
  - B) Nonpolar, but rotates to the three preferred dihedral angles
  - C) Nonpolar, and fixed in a trans conformation
  - D) Planar, and usually found in a trans conformation
14. The lactoferrin is produced by:
  - A) Spermatogonia
  - B) Reticulocytes
  - C) Amebocytes
  - D) Neutrophils
15. During generation of action potential, depolarization is due to
  - A)  $K^+$  -efflux
  - B)  $Na^+$  -efflux
  - C)  $K^+$  -influx
  - D)  $Na^+$  -influx
16. Which of the following wave is likely to be absent in ECG
  - A) P
  - B) T
  - C) Q
  - D) R
17. Indirect immunofluorescence involves fluorescently labeled
  - A) Immunoglobulin-specific antibodies
  - B) Antigen-specific antibodies
  - C) Hapten – specific antibodies
  - D) Carrier – specific antibodies
18. Prostaglandins are
  - A) C20 unsaturated fatty acids
  - B) C27 saturated alcohols
  - C) C20 saturated fatty acids
  - D) C27 unsaturated alcohols
19. Apart from the proton which other nuclei of the following is used for NMR.
  - A)  $^{13}C$
  - B)  $^{12}C$
  - C)  $^{16}O$
  - D)  $^{32}P$
31. Brunner glands are present in:
  - A) Colon
  - B) jejunum
  - C) duodenum
  - D) ileum
32. A rickshaw puller remembers a large number of places and has the ability to find shortcuts and new routes between familiar places. Which region of the brain is responsible for this?
  - A) Pituitary
  - B) Thalamus
  - C) Hypothalamus
  - D) Hippocampus
33. A Ramachandran plot show:-
  - A) The angles that are allowed between the bonds connecting the amide nitrogen in a peptide bond
  - B) The sterically limited rotational angles where phi and psi are allowed in the protein backbone.
  - C) The amino acid residues that have the greatest degrees of rotational freedom
  - D) The sterically allowed rotational angles between the side chain groups in a peptide backbone.
34. The most sensitive for the lethal effects of radiation is
  - A) Preimplantation
  - B) Early organogenesis
  - C) Late organogenesis
  - D) The fetal period
35. Which of the following is the primary factor regulating normal coronary blood flow
  - A) Aortic diastolic pressure
  - B) Coronary perfusion pressure
  - C) Systolic wall pressure
  - D) Myocardial oxygen consumption
36. The term satellite DNA refers to
  - A) extrachromosomal DNA fragments that are found close to (orbiting) the full length chromosomes
  - B) Mitochondrial DNA, which is circular in nature
  - C) Long tandem repeats of simple DNA sequences
  - D) Mobile DNA elements such as transposons and insertion sequences
37. The number of atoms in a crystal which surrounded a particular atom as its nearest neighbours is called
  - A) Charge number
  - B) Atomic packing factor
  - C) Coordination number
  - D) Lattice
38. EPR spectrum is due to
  - A) Change in mass state of an electron
  - B) Change in L-K transition of an electron
  - C) Change in spin state of an electron
  - D) Change in both L-K transition and mass of an electron

### Sample Questions for M.Sc. Mathematics

- Let  $G$  be a group of order 147. For any  $a \in G$ ,  $a \neq e$ , the number of solutions of  $x^2 = a$  is  
 (A) 49  
 (B) one  
 (C) three  
 (D) zero
- In the ring  $Z[i]$ , where  $Z$  is the ring of integers, the element  $1 - i$   
 (A) is both irreducible as well as prime  
 (B) is neither irreducible nor prime  
 (C) is irreducible but not prime  
 (D) is prime but not irreducible
- The equation of the tangent to the curve  $f(x, y) = 0$  at any point  $(a, b)$  is given by  
 (A)  $(x - a) \frac{\partial f}{\partial y}(a, b) + (y - b) \frac{\partial f}{\partial x}(a, b) = 0$   
 (B)  $(x - a) \frac{\partial f}{\partial y}(a, b) - (y - b) \frac{\partial f}{\partial x}(a, b) = 0$   
 (C)  $(y - b) \frac{\partial f}{\partial y}(a, b) + (x - a) \frac{\partial f}{\partial x}(a, b) = 0$   
 (D)  $(x - a) \frac{\partial f}{\partial x}(a, b) - (y - b) \frac{\partial f}{\partial y}(a, b) = 0$
- Two spheres  

$$x^2 + y^2 + z^2 + 2u_1x + 2v_1y + 2w_1z + d_1 = 0$$

$$x^2 + y^2 + z^2 + 2u_2x + 2v_2y + 2w_2z + d_2 = 0$$
 cut each other orthogonally if  
 (A)  $2u_1u_2 + 2v_1v_2 + 2w_1w_2 = d_1 + d_2$   
 (B)  $u_1u_2 + v_1v_2 + w_1w_2 = 0$   
 (C)  $\frac{u_1}{u_2} = \frac{v_1}{v_2} = \frac{w_1}{w_2} = \frac{d_1}{d_2}$   
 (D)  $2(u_1 - u_2) + 2(v_1 - v_2) + 2(w_1 - w_2) = (d_1 - d_2)$
- The series  $\sum \frac{1}{n(\log n)^p}$  is  
 (A) convergent if  $p > 0$   
 (B) convergent if  $p > 1$   
 (C) divergent if  $p > 1$   
 (D) convergent if  $0 < p < 1$
- The integrating factor of the differential  $\frac{\partial y}{\partial x} + 2xy = 4x^3$  is given by  
 (A)  $e^{y^2}$   
 (B)  $e^{x^2}$   
 (C)  $e^x$   
 (D)  $e^y$
- If  $\phi(x_1, y_1, z_1) = 3x^2y - y^3z^2$ , then  $\nabla \phi$  at the point  $(1, -2, 1)$  is  
 (A)  $-12\hat{i} - 9\hat{j} - 16\hat{k}$   
 (B)  $12\hat{i} + 9\hat{j} - 16\hat{k}$   
 (C)  $-12\hat{i} + 9\hat{j} + 16\hat{k}$   
 (D)  $-12\hat{i} + 9\hat{j} - 16\hat{k}$
- If one root of the equation  $x^3 - 13x^2 + 15x + 189 = 0$  exceeds the other by 2, then all the roots are  
 (A) 7, 9 and 3  
 (B) -7, -9 and -3  
 (C) 7, 9 and -3  
 (D) -7, -9 and 3
- Two forces 13 kg.wt. and  $3\sqrt{3}$  kg.wt. act on a particle at an angle  $\theta$  and equal to a resultant force of 14 kg.wt., then the angle between the forces is  
 (A)  $45^\circ$   
 (B)  $30^\circ$   
 (C)  $60^\circ$   
 (D)  $90^\circ$
- Let  $W_1$  and  $W_2$  be subspaces of dimensions 5 and 4 respectively of a vector space  $V$  of dimension 6. Then  $\dim(W_1 \cap W_2)$  is  
 (A) Zero  
 (B) one  
 (C) at most two  
 (D) at least three

**Sample Questions for M.Sc. 2-Year Course (Bioinformatics/ System Biology and Bioinformatics)**

- Which are the repositories for raw sequence data  
A) Gen Bank  
B) EMBL  
C) DDBJ  
D) GGPP
- Which of the following annotation is not provided by SWISS-PROT  
A) Protein function  
B) Domain structure  
C) Post translation modification  
D) Crystal formations
- Which is the most important computer language used in Bioinformatics  
A) Pascal  
B) Perl  
C) Java  
D) C++
- Which type of analysis cannot be performed on *raw DNA sequence* using Bioinformatics tools  
A) Identifying coding regions  
B) Identification of introns and exons  
C) Gene product prediction  
D) Identifying *cis* and *trans* regions
- OMIM is engaged in study of  
A) Human molecular Biology  
B) Plant molecular biology  
C) Bacterial molecular biology  
D) Yeast Molecular biology
- Which of the following sequence is correct:  
A) DNA, RNA, Protein  
B) DNA, Protein, RNA  
C) RNA, DNA, Protein  
D) Protein, DNA, RNA
- Which is not the method of protein/DNA sequence alignment  
A) Matrix  
B) Brute force  
C) Dynamic programming  
D) Heuristic methods
- The method not used in NSA programming is  
A) Sum of pairs methods  
B) Spare alignment  
C) Two step method  
D) Fitch/Margoliosh method
- Distance matrix method are used for  
A) Carbohydrate structure prediction  
B) Proteins structure prediction  
C) Phylogenetic analysis  
D) Primer design
- FASTA-BLAST, WU-BLAST are programmes used for determining  
A) Sequence similarity of Protein only  
B) Sequence similarity of DNA only  
C) Sequence similarity of Carbohydrate only  
D) Sequence similarity of Protein and DNA

**Sample Questions for M.Sc. 2-Year Course for M.Sc. (Environment)**

- A thin copper wire of length one metre increases in length by 4% when heated by 10°C. What will be the per cent increase in area when a square copper sheet of side one metre is heated by 10°C?  
A) 4%  
B) 8%  
C) 16%  
D) 24%
- If the unit of length and force are increased by 4 times, the unit of energy gets increased by how many times?  
A) 4 times  
B) 8 times  
C) 16 times  
D) does not change
- The scientific principle involved in radio and television is:  
A) Superconductivity  
B) Semiconductography  
C) Propagation of e.m. waves  
D) Electromagnetic induction
- A passenger in a moving train tosses a coin. If it falls behind him, the train must be moving with  
A) An acceleration  
B) A deceleration  
C) Uniform speed  
D) It can never happen
- Which of the following is a deadly nerve gas developed during the second world war?  
A) Nitric oxide  
B) Phosgene  
C) Sarine  
D) Dioxin
- The natural rubber obtained from trees is made of:  
A) Isoprene units  
B) Vinyl chloride  
C) Acetylene  
D) Neoprene
- Which of the following is differentially permeable?  
A) Cell wall  
B) Tonoplast  
C) Nuclear membrane  
D) Cytoplasm
- Which of the following prevents leaf shedding in plant?  
A) Auxins  
B) Gibberellins  
C) Cytokinins  
D) Absciscic acid
- Sugar in chloroplast is synthesized in:  
A) Quantasomes  
B) Stroma  
C) Thylakoids  
D) Matrix

5. Zero error of an instrument introduces:
  - A) Systematic error
  - B) Random error
  - C) Per cent error
  - D) Means no error
6. The Science of surveying and mapping the earth's surface is known as:
  - A) Cartography
  - B) Geodesy
  - C) Topography
  - D) Scienodsy
7. The gravitational force with which a body is attracted towards the earth is
  - A) Maximum at the equator and minimum at the poles
  - B) Minimum at the equator and maximum at the poles
  - C) The same at the equator and the poles
  - D) Depends on the altitude at the given point
8. Which of the following is used as an antiseptic?
  - A) Iodine
  - B) Bromine
  - C) Chlorine
  - D) Fluorine
9. Washing soaps produces a scum with hard water and not much of foam, because the hard water contains:
  - A) Many suspended particles
  - B) Many dissolved inorganic salts
  - C) Chalk and sulphur
  - D) Dissolved organic matter
15. The structure of protoplasm is:
  - A) Granular
  - B) Fibrillar
  - C) Reticular
  - D) Colloidal Matrix
16. Which of the following could be 'cancer' of the lymph nodes and spleen?
  - A) Carcinoma
  - B) Sarcoma
  - C) Leukemia
  - D) Lymphoma
17. The major component of Bacterial cell wall is
  - A) Xylan
  - B) Chitin
  - C) Peptidoglycan
  - D) Cellulose
18. How many bones does the Cranium of man have?
  - A) 8
  - B) 12
  - C) 16
  - D) 20
19. When is the world Population day celebrated?
  - A) August 3
  - B) April 16
  - C) October 18
  - D) July 11
20. In a Nuclear Reactor the heavy water is used to :
  - A) cool the neutrons
  - B) slow down the neutrons
  - C) absorb the neutrons
  - D) control the number of neutrons

#### Sample Questions for M.Sc. 2-Year Course (Human Genomics)

1. Which one of the following is an essential component of DNA?
  - A) Protein
  - B) Carbohydrate
  - C) Lipids
  - D) Vitamins
2. Three types of RNA involved in comprising the structural and functional core for protein synthesis, serving as a template for translation, and transporting amino acid, respectively, are:
  - A) mRNA, tRNA, rRNA
  - B) rRNA, tRNA, mRNA
  - C) tRNA, mRNA, rRNA
  - D) rRNA, mRNA, tRNA
3. A synthetic mRNA of repeating sequence 5'-CACACACACACACAC... is used for a cell-free protein synthesizing system like the one used by Nuremberg. If we assume that protein synthesis can begin without the need for an initiator codon, what product or products would you expect to occur after protein synthesis.
  - A) One protein consisting of a single amino acid
  - B) Three proteins, each consisting of a different, single amino acid
  - C) One protein, with an alternating sequence of two different amino acids
  - D) Two proteins, each with an alternating
5. Signaling between cells usually results in the activation of protein
  - A) lipase
  - B) kinases
  - C) proteases
  - D) nuclease
6. Highly repetitive DNA has
  - A) a very short repeating sequence and no coding function
  - B) a moderate repeating sequence and a coding for house keeping gene
  - C) a simple repeat sequence and no coding function
  - D) None of the above
7. From which grandparent or grandparents did you inherit your mitochondria? Is it your:
  - A) mother's parents
  - B) paternal grandfather
  - C) grand mothers
  - D) maternal grandmother
8. What are the possible blood types of the offspring of a cross between individuals that are type AB and type O? (Hint: blood type O is recessive)
  - A) AB or O
  - B) A, B, or O
  - C) A or B

sequence of two different amino acids.

4. A replicon is:
  - A) an enzyme complex that replicates DNA
  - B) the amount of time required to duplicate a genome
  - C) larger in complex eukaryotes and smaller in bacteria
  - D) the DNA sequences that specify and are replicated by a single replication initiation event
9. A woman with an X-linked dominant disorder mates with a phenotypically normal male. On average, what proportion of this couple's daughters will be affected with the disorder?
  - A) 0.5
  - B) 1.0
  - C) 0.75
  - D) 0.25
10. A messenger acid is 336 nucleotides long, including the initiator and termination codons. The number of amino acids in the protein translated from this mRNA is:
  - A) 999
  - B) 630
  - C) 330
  - D) 111

#### Sample Questions for M.Sc. 2-Year Course in Nuclear Medicine

1. We can't produce colors with white light through:
  - A) Interference
  - B) Polarization
  - C) Diffraction
  - D) Dispersion
2. Methods of Fourier Transformation are applied in
  - A) Nuclear Magnetic Resonance
  - B) X-ray crystallography
  - C) Medical Imaging
  - D) All of the above
3. Which one of the following is correctly matched?
  - A) Chloroplast – storage of enzymes
  - B) Lysosome – powerhouse of cell
  - C) Nucleolus – site of ribosomal synthesis
  - D) Glyoxysome – structural support of cell
4. Which amino acid can stabilize protein structure by forming covalent cross links between polypeptide chains?
  - A) Ser
  - B) Gly
  - C) Glu
  - D) Cys
5. In CT imaging the phenomenon used is
  - A) Radiation absorption
  - B) Radiation damage
  - C) Free radical formation
  - D) Radiation fluorescence
6. Macrophage – like cells in the connective tissue are
  - A) Osteoclasts
  - B) Mesangial cells
  - C) Histiocytes
  - D) Microglial cells
7. Zinc finger proteins and helix-turn-helix proteins are:
  - A) Types of DNA-binding proteins
  - B) Involved in the control of translation
  - C) Components of ribosomes
  - D) Part of the hemoglobin in blood cells
8. Transcription of DNA into mRNA is catalyzed by
  - A) DNA polymerase
  - B) RNA synthetase
  - C) RNA polymerase
  - D) Rnase
9. Which nitrogenous bases is NOT found in DNA?
  - A) Thymine
  - B) Uracil
  - C) Adenine
  - D) guanine
10. How would the complementary strand of DNA appear if the original strand of DNA contained the bases T-A-G-C in the order?
  - A) U-A-C-G
  - B) G-C-A-T
  - C) T-A-C-G
  - D) A-T-C-G

#### Sample Questions for M.Sc. 2-Year Course in Forensic Science & Criminology

##### Section A: General Science (Compulsory)

1. Which acid is produced when milk gets sour?
  - A) Tartaric Acid
  - B) Butyric Acid
  - C) Lactic Acid
  - D) Acetic Acid

##### Section B: Any two of the four sub-sections

##### Biology

1. The most abundant protein on earth is
  - A) Keratin
  - B) Rubisco
  - C) RuBP
  - D) Fibrinogen

2. The bond which is present between water molecules is:  
 A) Electrovalent bond  
 B) Covalent bond  
 C) Hydrogen bond  
 D) Vander Waalls bond
3. The number of Chromosomes pairs in Human body are :  
 A) 23  
 B) 42  
 C) 46  
 D) None of above
- 4) The mass of the body at the centre of earth is  
 A) Less than at the surface  
 B) Remains constant  
 C) More than the surface  
 D) Zero

#### Forensic Science

1. Who suggested the practical method of finger-printing and their classification  
 A) Francis Galton  
 B) Henry Faulds  
 C) Albert Osborn  
 D) Calvin Goddard
2. Study of the motion of a projectile from the muzzle of the weapon to the target is  
 A) External Ballistics  
 B) Terminal Ballistics  
 C) Internal Ballistics  
 D) None of the above

2. Type of mimicry in which both the minic and model are harmful (unpalatable) to the predator  
 B) Batesian mimicry  
 C) Mullerian mimicry  
 D) Warning mimicry  
 E) Concealing mimicry

#### Chemistry

1. The correct decreasing order of the boiling points is  
 A)  $\text{NH}_3 > \text{H}_2\text{O} > \text{HF}$   
 B)  $\text{H}_2\text{O} > \text{HF} > \text{NH}_3$   
 C)  $\text{NH}_3 > \text{HF} > \text{H}_2\text{O}$   
 D)  $\text{HF} > \text{H}_2\text{O} > \text{NH}_3$
2. The element that shows both +3 and +4 oxidation is  
 A) Cerium  
 B) Promethium  
 C) Gadolinium  
 D) Holmium

#### Physics

1. Where can Maxwell's equation be derived  
 A) Gauss's law  
 B) Gauss's magnetic law  
 C) Faraday law  
 D) All the above
2. A particle executive a vibratory motion passing through mean point has  
 A) Maximum potential energy and minimum kinetic energy  
 B) Maximum kinetic energy and minimum potential energy  
 C) Kinetic energy and potential energy both maximum  
 D) Kinetic energy and potential energy both minimum

#### Sample Questions for M.Sc. Statistics

1.  $\lim_{x \rightarrow 0} \frac{\sin(\pi \cos^2 x)}{x^2}$  is  
 (a)  $\pi$   
 (b) 1  
 (c)  $-\pi$   
 (d)  $\pi/2$
2. For  $x \in \mathcal{R}$ ,  $\lim_{x \rightarrow \infty} \left(\frac{x-3}{x+2}\right)^x$  is  
 (a)  $e^{-1}$   
 (b)  $e$   
 (c)  $e^{-5}$   
 (d)  $e^5$
3. The value of  $\int_{-1}^2 |[x] - \{x\}| dx$ , where  $[x]$  is the greatest integer less then or equal to x and  $\{x\}$  is the fractional part of x is  
 (a)  $7/2$   
 (b)  $5/2$   
 (c)  $1/2$   
 (d)  $3/2$
4. The value of  $\int_{1/3}^3 \frac{1}{x} \sin\left(\frac{1}{x} - x\right) dx$  is
5. The number of accidents per week in a small city has a Poisson distribution with mean equal to 3. The probability of exactly 2 accidents in 2 weeks is  
 (a)  $2e^{-3}$  (b)  $9e^{-3}$  (c)  $18e^{-6}$  (d)  $18e^{-3}$
6. The Quadratic form  $Q(x, y, z) = x^2 + 3y^2 + 2z^2$  is  
 (a) Positive definite (b) Positive semi-definite (c) Negative definite (d) Indefinite

7. The function

$$f(x) = \begin{cases} \frac{\sin x}{x} & \text{for } x \neq 0 \\ 1 & \text{for } x = 0 \end{cases}$$

is

- (a) continuous at  $x = 0$
- (b) not continuous at  $x = 0$
- (c) not differentiable at  $x = 0$
- (d) nowhere differentiable at  $x = 0$

8. Let  $A$  be a  $n \times n$  real matrix. Then, which of the following statements is true?

- (a) If the eigenvalues of  $A$  are  $\lambda_1, \dots, \lambda_n$ , then  $A$  is similar to a diagonal matrix with  $\lambda_1, \dots, \lambda_n$  along the diagonal.
- (b) If  $\text{rank}(A) = r$ , then  $A$  has ' $r$ ' non-zero eigenvalues.
- (c) If  $A^k = 0$  for some  $k > 0$ , then  $\text{trace}(A) = 0$ .
- (d) If  $A$  has a repeated eigenvalue, then  $A$  is not diagonalizable.

9. The system of equations  $4x + 6y = 5$ ,  $8x + 12y = 10$  has:

- (a) A unique solution
- (b) No solution
- (c) Infinitely many solutions
- (d) None of the above

10. If two matrices  $A$  and  $B$  have the same size and the same rank, then

- (a) they have determinant 0
- (b) they are equivalent
- (c)  $A$  and  $B$  have common elements.
- (d)  $A$  and  $B$  have at least two elements common

11. The system  $AX = 0$  in ' $n$ ' unknowns has only trivial solution if:

- (a)  $\rho(A) > n$
- (b)  $\rho(A) < n$
- (c)  $\rho(A) = n$
- (d)  $\rho(A) \geq n$

12. Let  $F$  and  $G$  be two events in the sample space  $S$  such that  $P(F \cup G) = .8$ ,  $P(F) = p$  and  $P(G) = .3$ . The value of  $p$  for which  $F$  and  $G$  are independent is:

- A. .5
- B. .6
- C.  $2/3$
- D.  $1/5$

13. The particular integral of  $(D^2 + D)y = x^2 + 2x + 4$  is

- A.  $4x + c$
- B.  $x^3 + 2x^2 + 4x$
- C.  $x^3/3 + 2x^2 + 4x$
- D.  $x^3/3 + 4x$

14. The value of  $\int_C \frac{z-3}{z^2+2z+5} dz$ , where  $C: |Z+1-i|=2$  is:

- A. 0
- B.  $(i-2)$
- C.  $\pi((i-2))$
- D.  $\pi/2$

15. The residue of  $f(Z) = \frac{z^2}{(z-1)^2(z+2)}$  at pole 1 is :

- A.  $1/3$
- B.  $5/9$
- C.  $2/3$
- D. 0

16. The complete solution of  $(x+1) dy/dx - y = e^{3x}(1+x^2)$  is :

- A.  $-1/(x+1)$
- B.  $1/(x+1)$
- C.  $(e^{3x}/3 + c)(1+x)$
- D.  $(e^{3x}/3 + c)$

17. The solution of  $p = \sin(y - px)$ , where  $p = dy/dx$ , is

- A.  $px + \sin^{-1}p$
- B.  $cx + \sin^{-1}c$
- C.  $cx$
- D.  $\sin^{-1}c$

18. The value of  $k$  for which the area under the curve  $f(x) = k(y+1)$ ,  $2 < y < 4$  and zero otherwise, will be one is:

- A.  $1/8$
- B. 8
- C. 1
- D.  $3/4$

19. The value of  $\int_0^\infty x e^{-x/2} dx$  is:

- A. 2
- B. 1
- C. 4
- D.  $1/2$

20. A person selects two items randomly, one by one without replacement, from a lot containing 4 defective and 6 non-defective items. The probability that second drawn item will be defective given that first was non defective is:

- A.  $4/15$
- B.  $6/25$
- C.  $4/9$
- D.  $4/10$

21. Random variable  $X$  follows Poisson distribution such that  $3P[X = 1] = 2P[X = 2]$ . The mean of  $X$  is:

- A. 2
- B. 3
- C.  $3/2$
- D. 1

## Sample Questions for M.Sc. Geology

1. A Sandstone containing of at least 25% Feldspar is :

- A) Orthoquartzite
- B) Arkose
- C) Graywacke
- D) Sublithic Wacke

2. An intergrowth texture in which plagioclase contains inclusion of potash feldspar is known as :

- A) Perthite
- B) Antiperthite
- C) Graphic
- D) Seriate

3. Which of the following rock is not of metamorphic origin:

- A) Slate
- B) Phyllite
- C) Schist
- D) Shale

4. Mica Plate gives the retardation of:

- A) 1 Lamed
- B)  $\frac{1}{2}$  Lamed
- C)  $\frac{1}{4}$  Lamed
- D) Variable retardation

5. Which of the following mineral is Aluminosilicate:

- A) Quartz
- B) Garnet
- C) Biotite
- D) Sillimanite, Robins, Crows

Sample Question Paper for M.Sc. (2 Year Course) Microbial Biotechnology

1. Which one of the following processes refers to removal of only pathogenic organisms from an animate surface?
  - A. Disinfection
  - B. Antisepsis
  - C. Tyndallization
  - D. Inspissation
2. Under conditions of antigen excess, the complexes between IgA and a tetravalent antigen will have the composition
  - A. Ag2Ab1
  - B. Ag4Ab1
  - C. Ag4Ab3
  - D. Ag2Ab7
3. Ebola is a
  - A. Haemorrhagic fever of humans and other primates caused by ebolaviruses
  - B. Prion disease of primates and humans
  - C. Equine bolus Aswan syndrome caused by unknown aetiological agent
  - D. Bacterial febrile illness that leads to sudden death
4. Which of the following chromatography techniques can be used to separate a protein that binds strongly to its substrate incorporated onto a column?
  - A. Size-exclusion chromatography
  - B. Ion exchange chromatography
  - C. Affinity chromatography
  - D. Partition chromatography
5. The  $N_2$  fixation reaction catalysed by the enzyme nitrogenase is a high energy demanding reaction that requires approximately
  - A. 12 ATP
  - B. 25 ATP
  - C. 18 ATP
  - D. 7 ATP
6. In light microscopy, if the wavelength of the light illuminating a sample is increased the resolving limit and the resolving power of the microscope will \_\_\_\_\_ and \_\_\_\_\_ respectively.
  - A. Increase; Increase
  - B. Increase; Decrease
  - C. Decrease; Increase
  - D. Decrease; Decrease
7. The affinity of an enzyme for its substrate, when the enzyme has a  $K_m$  of 0.50mM will be than the affinity of an enzyme for its substrate when the enzyme has a  $K_m$  of 0.05mM.
  - A. Half
  - B. Greater
  - C. Lesser
  - D. Equal
8. For recovering citric acid from culture medium after the fermentation,  $Ca(OH)_2$  is added to the slurry to
  - A. Precipitate calcium carbonate
  - B. Precipitate calcium sulphate
  - C. Precipitate calcium phosphate
  - D. Precipitate calcium citrate
9. Chronic granulomatous disease arises due to defects in the
  - A. Monocytes and neutrophils
  - B. T cells
  - C. B cells
  - D. RBCs
10. Cathepsin G is a marker for
  - A. Mitochondria
  - B. Chloroplast
  - C. Lysosomes
  - D. Golgi bodies

### Sample Questions for M.Sc. Biotechnology

1. Correct sequence of stages in cell cycle is
  - A) G1, S, G2, M
  - B) S, G2, M, G1
  - C) G1, G2, M, S
  - D) G1, G2, S, M
2. Which of the following does not contain both DNA and RNA?
  - A) Yeast
  - B) Bacteria
  - C) Mycoplasma
  - D) Virus
3. Which of the following is not an antibacterial antibiotic
  - A) Tetracyclin
  - B) Ampicillin
  - C) Nystatin
  - D) Nalidixic acid
2. The development of egg without fertilization is called
  - A) Blastogenesis
  - B) Parthenogenesis
  - C) Cogenesis
  - D) Gametogenesis
  - E)
3. TATA box and Pribnow box are components of
  - A) Operators
  - B) Promoters
  - C) Enhancers
  - D) Activators
4. Peptide chain elongation involves all the following except
  - A) peptidyl transferase
  - B) GTP
  - C) Tu, Ts and G factors
  - D) Formyl tRNA
7. The smallest unit of DNA capable of coding for the synthesis of a polypeptide is the
  - A) Operon
  - B) cistron
  - C) promoter
  - D) replicon
8. Exonuclease is an enzyme, which cleaves DNA from
  - A) 3' end
  - B) 5' end
  - C) both 3' and 5' end
  - D) internal bonds in DNA
9. Which of the following is not part of the *lac* operon of *E. coli*?
  - A) genes for inducible enzymes of lactose metabolism
  - B) genes for the repressor, a regulatory protein
  - C) gene for RNA polymerase
  - D) a promoter, the RNA polymerase binding site
10. Which of the following primers would allow copying of the single-stranded DNA sequence 5' ATGCCTAGGTC?
  - A) 5' ATGCC,
  - B) 5' TACGG
  - C) 5' CTGGA
  - D) 5' GACCT

### Sample Questions for M.Sc. Botany

- In  $C_4$  plants the first  $CO_2$  acceptor is :  
A) Ribulose – 1,5-bisphosphate  
B) Phosphoenol pyruvate  
C) Pyruvate  
D) Ribulose-5-phosphate
- In majority of angiosperms, the female gametophyte at the time of fertilization is :  
A) 8-celled  
B) 7-celled  
C) 6-celled  
D) 4-celled
- Agar-agar is extracted from which of the following genera  
A) *Gracilaria*  
B) *Dictyota*  
C) *Ectocarpus*  
D) *Laminaria*
- Black rust of wheat is caused by :  
A) *Ustilago tritici*  
B) *Puccinia graminis tritici*  
C) *Protomyces macrosporus*  
D) *Albugo candida*
- Oomycota is a phylum in kingdom:  
A) Fungi  
B) Chromista  
C) Protozoa  
D) Mycota
- Cystidium is a  
A) Sterile element occurring in the hymenium of certain Basidiomycetes  
B) Reproductive organ of a green alga  
C) Fertile part of lichen thallus  
D) Asexual spore
- Most bryophytes are autotrophic but a few are more or less saprophytic. Which of the following is totally devoid of chlorophyll and depends upon a mycorrhizal association for its growth and development?  
A) *Cyptothallus mirabilis*  
B) *Funaria hygrometrica*  
C) *Conocephalum conium*  
D) *Pellia epiphylla*
- Somaclonal variations are:  
A) Variations produced during tissue culture  
B) Variations produced during sexual reproduction  
C) Variations caused by mutagenic chemicals  
D) Variations caused by Gamma rays
- Trisomic condition is expressed as  
A)  $2n-1$   
B)  $2n-2$   
C)  $2n+1$   
D)  $2n+2$
- The functional unit in ecology is the:  
A) Organism  
B) Biosphere  
C) Ecosystem  
D) Population

### Sample Questions for M.Sc. Chemistry

1. Phenolic esters on heating with  $AlCl_3$  gives o- and p- acyl phenol. This is termed as:

- |                            |                            |
|----------------------------|----------------------------|
| (A) Favorski rearrangement | (B) Beckmann rearrangement |
| (C) Fries rearrangement    | (D) Wolff rearrangement    |

2. Product of the rapid photochemical reaction of following aromatic compound is:

3. With the molecular formula  $C_9H_{11}Cl$  assign the plausible structure to the compound from the following sets of NMR data:

- Quintet ( $\delta$  2.15) 2H
- Triplet ( $\delta$  2.75) 2H
- Triplet ( $\delta$  3.38) 2H
- Singlet ( $\delta$  7.22) 5H

4. Ozonolysis of butan-1-ene followed by reduction with Zn / CH<sub>3</sub>COOH gives:

- (A) Acetaldehyde and formaldehyde      (B) Acetaldehyde and acetone  
(C) Acetone and formaldehyde      (D) Propionaldehyde and formaldehyde

5. The equilibrium constant of a reaction doubles on raising the temperature from 25°C to 35°C. Calculate  $\Delta H^\circ$  for the reaction (in KJ mol<sup>-1</sup>):

- (A) 52.89      (B) 0  
(C) 60.5      (D) 46.3

6. No. of vibrational degree of freedom in benzene:

- (A) 6      (B) 2  
(C) 31      (D) None of the above

7. What is the constant volume heat capacity of an ideal monoatomic gas (in unit J K<sup>-1</sup> mol<sup>-1</sup>)?

- (A) 12.47      (B) 6.1  
(C) 0      (D) Infinite

8. Average kinetic energy of the gas molecules at temperature, T is:

- (A)  $\frac{2}{3} RT$       (B)  $\frac{2}{3} N_0 kT$   
(C)  $\frac{3}{2} N_0 RT$       (D)  $\frac{3}{2} N_0 kT$

9. (C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>Zn on reaction with acetyl chloride gives:

- (A) Butane      (B) Butanoic acid  
(C) Butanone      (D) Butane

10. Which of the following combination of orbitals is not permissible?

- (A)  $n = 3, l = 2, m = 0, s = -\frac{1}{2}$       (B)  $n = 5, l = 0, m = 0, s = \frac{1}{2}$   
(C)  $n = 2, l = 1, m = 0, s = \frac{1}{2}$       (D)  $n = 4, l = 3, m = -3, s = 0$

11. Calculate the effective nuclear charge at the outer boundary of copper atom:

- (A) 3.85      (B) 4.35  
(C) 1.3      (D) 13.05

12. Which of the following has highest ionic mobility in aqueous solution?

- (A) Li<sup>+</sup>      (B) Na<sup>+</sup>  
(C) K<sup>+</sup>      (D) Cs<sup>+</sup>

**Sample Questions for M.Sc. Physics/ Physics (Specialisation in Electronics)/ M.Sc. (2 Year course) Medical Physics**

- Two electrons move in opposite directions at 0.70 c as measured in the laboratory. The speed of one electron as measured from the other is:-  
(A) 0.35c  
(B) 0.70c  
(C) 0.94c  
(D) 1.00 c
- Which one of the following transformations is second order phase transition?  
(A) Ferromagnetic state to the paramagnetic state  
(B) Melting of ice  
(C) Evaporation of materials  
(D) Solidification of materials.
- For which one of the following signal we
- When the gate voltage becomes more negative in n-channel JFET, the channel between depletion layers:  
(A) Shrinks  
(B) Expands  
(C) Conducts  
(D) Stops conducting
- Space quantization means that:  
(A) Space is quantized  
(B) L and U are in the same direction.  
(C) L<sub>z</sub> can have discrete values.  
(D) An electron has magnetic dipole moment.
- The electron density of states for a

require an amplifier with minimum bandwidth:

- A) Sine wave
- B) Square wave
- C) Triangular wave
- D) Saw tooth wave

4. Two of Maxwell's equations contain an integral over a closed surface. For them the infinitesimal vector area  $dA$  is always:

- A) Tangent to the surface
- B) Tangent to the field line
- C) Perpendicular to the surface and pointing inward.
- D) Perpendicular to the surface and pointing outward.

5. For the domestic ac supply of 220V, the breakdown voltage of a diode should be:

- A) 130V
- B) 163V
- C) 220V
- D) 330V

metal depends primarily on:

- A) The temperature
- B) The energy associated with the state
- C) The size of the sample.
- D) The mass of the sample.

9. Some alpha emitters have longer half-lives than others because:

- A) Their alpha particles have greater mass.
- B) Their alpha particles have less mass
- C) Their potential barriers to decay are higher and wider
- D) Their decays include the emission of photons.

10. In an alpha decay the disintegration energy appears mainly as

- A) Photon energies
- B) The kinetic energies of the alpha and the daughter nucleus
- C) The excitation energy of the daughter nucleus
- D) heat

### Sample Questions for M.Sc. Zoology

1. Which of the following types of DNA replication or repair systems is dysfunctional in individuals with Xeroderma pigmentosum?
  - A) Mismatch repair
  - B) Base excision repair
  - C) Nucleotide excision repair
  - D) DNA helicase
2. The part of the embryo from which ectoderm, endoderm and mesoderm are formed in chick is known as
  - A) Primitive streak
  - B) Hypoblast
  - C) Cytotrophoblast
  - D) Epiblast
3. N- linked oligosaccharides on secreted glycoproteins are attached to
  - A) Nitrogen atoms in the polypeptide backbone
  - B) The serine or threonine in the sequence Asn-X-Ser/Thr
  - C) The amino terminus of the protein
  - D) The asparagines in the sequence Asn-X-Ser/Thr
4. Which of the following in star fish can turn inside out?
  - A) Madreporite
  - B) Stone canal
  - C) Tube feet
  - D) Cardiac stomach
5. Antennae in hymenoptera, diptera and odonata are
  - A) Short & filiform, aristate, geniculate respectively
  - B) Short & filiform, geniculate, aristate respectively
  - C) Geniculate, aristate, short & filiform respectively
  - D) Aristate, geniculate, short & filiform respectively
6. Which of the following genus is the blood fluke of man and other animals?
  - A) Schistosoma
  - B) Ophisthorchis (Clonorchis)
  - C) Paragonimus
  - D) Diplozoon
7. Populations that are morphologically similar but do not interbreed for physiological or behavioural reasons are grouped as
  - A) Races
  - B) Varieties
  - C) Sub-species
  - D) Sibling species
8. The cranial capacity of which prehistoric human was almost the same as that of the modern man?
  - A) Neanderthal man
  - B) Peking man
  - C) Java ape man
  - D) Australopithecus man
9. An example of competitive inhibition of an enzyme is the inhibition of
  - A) Succinic dehydrogenase by malonic acid
  - B) Cytochrome oxidase by cyanide
  - C) Hexokinase by glucose 6 phosphate
  - D) Carbonic anhydrase by carbon dioxide
10. The isoelectric point of a protein is defined as
  - A) The pH at which the net charge on the molecule is zero
  - B) The pH at which all groups are protonated
  - C) The pH at which all groups are unprotonated
  - D) The pH at which each acidic groups is protonated and each basic groups is unprotonated.

## Important Dates and Information for Entrance Test PU-CET (P.G.) –2021

|     |                                                                                                                                                                                                                                                                                                                      |                                                   |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 1.  | Date of Availability of PU–CET (P.G.) Prospectus and Online Entrance Test Form at <a href="http://cetpg.puchd.ac.in">http://cetpg.puchd.ac.in</a>                                                                                                                                                                    | 15-04-2021 (Thursday)                             |
| 2.  | Last date for submission of information on the website to generate the Login and Password                                                                                                                                                                                                                            | 18-05-2021 (Tuesday)                              |
| 3.  | Last date for deposit of fee in any branch of State Bank of India using website generated Challan OR through Online Mode                                                                                                                                                                                             | 21-05-2021 (Friday) upto 4:00 p.m.                |
| 4.  | Last date for uploading of photograph, signature with rest of the information on the website                                                                                                                                                                                                                         | 24-05-2021 (Friday)                               |
| 5.  | <b>Availability of Admit Card Online</b><br>Admit Card along with Time & Centre of Examination is to be downloaded from the website by the candidate using his/her own Login ID and Password provided while generating Bank Challan. <b>The candidates will be communicated through email only for this purpose.</b> | 07-06-2021 (Monday)                               |
| 6.  | Candidates who have not completed their form but have paid their requisite fee, can complete their form by paying late fee of Rs. 500                                                                                                                                                                                | 09-06-2021 (Wednesday)                            |
| 7.  | Dates of holding Entrance Test                                                                                                                                                                                                                                                                                       | 12-06-2021 & 13-06-2021<br>(Saturday and Sunday)  |
| 8.  | Centre for Entrance Test                                                                                                                                                                                                                                                                                             | Chandigarh, Ludhiana, Muktsar, Hoshiarpur.        |
| 9.  | Uploading of Answer Key (at <a href="http://exams.puchd.ac.in/show-noticeboard.php">http://exams.puchd.ac.in/show-noticeboard.php</a> ) and inviting Objections (through e-mail only to <a href="mailto:arcet@pu.ac.in">arcet@pu.ac.in</a> )                                                                         | 22-06-2021 (Tuesday) by 1:00 p.m.                 |
| 10. | Last date of submission of objections to the Answer Key                                                                                                                                                                                                                                                              | 24-06-2021 (Thursday) by 1:00 p.m.                |
| 11. | Uploading of the response to the Objections and inviting Cross-objections (through e-mail only)                                                                                                                                                                                                                      | 29-06-2021 (Tuesday)                              |
| 12. | Last day of submission of Cross-objections to the Answer key                                                                                                                                                                                                                                                         | 01-07-2021 (Thursday)                             |
| 13. | Date of declaration of result                                                                                                                                                                                                                                                                                        | 14-07-2021 to 16-07-2021<br>(Wednesday to Friday) |
| 14. | Date of availability of online Admission Form for the courses offered by University Departments/Centres at <a href="http://onlineadmissions.puchd.ac.in">http://onlineadmissions.puchd.ac.in</a>                                                                                                                     | Updated later on                                  |

### For Enquiries about Test contact(From 10:00 a.m to 04:00 p.m.)

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| 1. Assistant Registrar (C.E.T.)   | 0172- 2534829; 9855531122                   |
| 2. Office Superintendent (C.E.T.) | 0172-2534829; 8283823191                    |
| 3. Controller of Examinations     | 0172- 2534811, 2541825                      |
| 4. Enquiry Office                 | 0172- 2534818, 2534819, 2534866, 1801802065 |

**Note: Applying for Entrance Test and taking the Test do not entitle a candidate for admission. For admission to PU-CETPG based programmes being offered by various Department/Centre/Institute at Panjab University only, online Admission Form will have to be submitted by the Candidate separately. Availability of Online Admission Form will be updated later on. The candidates are required to fill up and submit online Admission Form at <http://onlineadmissions.puchd.ac.in> before the last date of submission of online Admission Form (to be announced later on) even if the result of Entrance Test has not been declared by then.**

### DATE SHEET PU-CET (P.G.) 2021

| Date and Day of Test    | Course                                                                                          | Time of Examination      |
|-------------------------|-------------------------------------------------------------------------------------------------|--------------------------|
| 12-06-2021 (Saturday)   | M.Sc. (Industrial Chemistry)                                                                    | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. (Computer Science)                                                                        | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. (2 Yr. Course) Nuclear Medicine                                                           | 8.30 a.m. to 10.00 a.m.  |
|                         | M.E. (Computer Science & Engg.)                                                                 | 8.30 a.m. to 10.00 a.m.  |
|                         | M.E. Civil Engg. (Construction Tech. & Mgt.)                                                    | 8.30 a.m. to 10.00 a.m.  |
|                         | M.E. (Chemical) and M.E. (Chemical with specialisation in Environmental Engg.)                  | 8.30 a.m. to 10.00 a.m.  |
|                         | M.P.Ed.                                                                                         | 8.30 a.m. to 10.00 a.m.  |
|                         | Masters in History                                                                              | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. (Statistics) (2 Yr. Course)                                                               | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. (Geology)                                                                                 | 11.00 a.m. to 12.30 p.m. |
|                         | Masters in Disaster Management                                                                  | 11.00 a.m. to 12.30 p.m. |
|                         | MBA for Executive (MBAfEX)                                                                      | 11.00 a.m. to 12.30 p.m. |
|                         | M.Sc. (2 Yr Course) Human Genomics                                                              | 11.00 a.m. to 12.30 p.m. |
|                         | M.Tech. (Material Sciences & Technology)                                                        | 11.00 a.m. to 12.30 p.m. |
|                         | M.Sc. (Biochemistry)                                                                            | 11.00 a.m. to 12.30 p.m. |
|                         | M.Sc. (2 Yr. Course) Environment Science                                                        | 1.30 p.m. to 3.00 p.m.   |
|                         | M.A. in Geoinformatics                                                                          | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Sc. (Biophysics)                                                                              | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Com. (Business Innovation)                                                                    | 1.30 p.m. to 3.00 p.m.   |
|                         | M.E. Electrical Engg. (Power System)                                                            | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Sc. Forensic Science (2 Yr. Course)                                                           | 4.00 p.m. to 5.30 p.m.   |
|                         | M.A. in English                                                                                 | 4.00 p.m. to 5.30 p.m.   |
|                         | M.E. (Food Technology)                                                                          | 4.00 p.m. to 5.30 p.m.   |
|                         | M.E. (Biotechnology)                                                                            | 4.00 p.m. to 5.30 p.m.   |
|                         | M.Tech. (Microelectronics) / M.E. (Electronics & Communication Engg.)                           | 4.00 p.m. to 5.30 p.m.   |
| 13-06-2021 (Sunday)     | LL.M.                                                                                           | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. (Chemistry)                                                                               | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Com. (Hons.)                                                                                  | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. (2 Yr. Course) Microbial Biotechnology                                                    | 8.30 a.m. to 10.00 a.m.  |
|                         | M.A. Journalism and Mass Communication                                                          | 8.30 a.m. to 10.00 a.m.  |
|                         | Masters of Social Work                                                                          | 8.30 a.m. to 10.00 a.m.  |
|                         | M.Sc. Physics/ Physics (specialization in Electronics);<br>M.Sc. (2 Yr. Course) Medical Physics | 11.00 a.m. to 12.30 p.m. |
|                         | M.Sc. (Botany)                                                                                  | 11.00 a.m. to 12.30 p.m. |
|                         | MBACIT                                                                                          | 11.00 a.m. to 12.30 p.m. |
|                         | M.E. Mechanical Engg. (Manufacturing Technology)                                                | 11.00 a.m. to 12.30 p.m. |
|                         | M.Tech. (Polymer)                                                                               | 11.00 a.m. to 12.30 p.m. |
|                         | Masters in Public Health                                                                        | 11.00 a.m. to 12.30 p.m. |
|                         | M.C.A.                                                                                          | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Sc. (Zoology)                                                                                 | 1.30 p.m. to 3.00 p.m.   |
|                         | M.E. Electrical Engg. (Instrumentation & Control)                                               | 1.30 p.m. to 3.00 p.m.   |
|                         | B.P.Ed.                                                                                         | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Com. (Business Economics)                                                                     | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Sc. (System Biology and Bioinformatics) / M.Sc. (Bioinformatics) (2 Yr. Course)               | 1.30 p.m. to 3.00 p.m.   |
|                         | M.Sc. ( Mathematics)                                                                            | 4.00 p.m. to 5.30 p.m.   |
|                         | M.A. (Geography)                                                                                | 4.00 p.m. to 5.30 p.m.   |
|                         | M.A. (Economics)                                                                                | 4.00 p.m. to 5.30 p.m.   |
|                         | M.Sc. (Biotechnology)                                                                           | 4.00 p.m. to 5.30 p.m.   |
|                         | M.Com. (Master of Entrepreneurship and Family Business)                                         | 4.00 p.m. to 5.30 p.m.   |
|                         | M.E. (Mechanical Engineering)                                                                   | 4.00 p.m. to 5.30 p.m.   |
| Centres for Examination | Chandigarh<br>Ludhiana<br>Muktsar<br>Hoshiarpur.                                                |                          |

**NOTE:** Candidates desirous to appear in more than one of the above papers, must ensure that there is no clash of timings in those papers.