PAPER CODE:6103

M.Sc. Sem. III Examination
July-Sep-2021
BOT CC-303 (BOTANY New Syllabus)

(*PLANT BIOTECHNOLOGY AND GENETIC ENGINEERING*)

કુલ સમય :– ૬૦ મીનીટ કુલ પ્રશ્નો : ૫૦ વિદ્યાર્થીએ ટીક કરવાના પ્રશ્નો : ૩૫

નોંધ : વિદ્યાર્થીએ માત્ર ૩૫ પ્રશ્નો જ ટીક કરવાના રહેશે. જો વધારે ટીક કરેલ હશે તો પ્રથમ ૩૫ પ્રશ્નો જ ગણતરીમાં લેવામાં આવશે.

1. Plasmids are used as cloning vectors for which of the following reasons?
    a. Can be multiplied in culture
    b. Self-replication in bacterial cells
    c. Can be multiplied in laboratories with the help of enzymes
    d. Replicate freely outside bacterial cells
2. Intellectual Property Rights (IPR) is a process which protects the use of information and ideas that are of.
    A. Ethical value
    B. Commercial value
    C. Social value
    D. None of the above
3. Which method of gene transfer requires skilled personnel?
    a) Liposome fusion
    b) Microinjectile
    c) Electroporation
    d) Silicon carbide fibers
4. From the given option which method is not belongs to DNA sequencing?
    a. Maxam and aro method
    b. Pyrosequencinng
    C. The whole genome shotgun sequencing method.
    d. Chain termination method.
5. The size of foreign DNA that can be inserted into bacteriophage is..
    a. 6-12kb
    b. 33-50kb
    C.9-15 kb
    d. <10 kb
6. Transgenic plant is produced by using which technology ?
    a) DNA sequencing
    b) Recombinant DNA
    c) DNA fingerprinting
    d) DNA analysis
7. Among all crops which one is the most transgenic event that has been commercialized ?
    a) Maize
    b) Rice
    c) Wheat
    d) Potato
8. What was the global production of oats in 2018
    a) 25.23 million metric tonnes.
    b) 65.35 million busheles.
    c) 23 million tonnes.
    d) 775 million tonnes.
9. Antibodies are complex protiens produced by
    a) vertebrates
    b) liver
    c) lungs
    d) veins

10. What is the sequential allocation of loci to a relative position on a chromosome

a) genome
b) gene mapping
c) genetic map
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16. What is the important of artificial seed?
    A. Large scale propagation
    B. Variety of genotypic plantations
    C. None of these
    D. A & b both
17. Which of the following is best suited method for production of virus free plant.
    A. Ovule culture
    B. Embryo culture
    C. Meristem culture
    D. Anther culture

18. A group of genetically similar organisms obtained by asexual reproduction is called.
    A. Clone
    B. Population
    C. Assembly
    D. None of these
19. _____media is used for protoplast culture.
    A. Synthetic media
    B. Natural media
    C. Nutritional media
    D. None of the above

20 First step in somatic hybridization is _____.
    A. Identification of hybrid plant
    B. Protoplast fusion
    C. Identification of hybrid cell.
    D. Protoplast isolation

21 Use of living organisms to serve human is:
a. Human biology
b. Social biology
c. Biotechnology
d. Ethical biology

22. Transgenic organisms have modified:
a. Genetic makeup
b. Chemical
c. Hormones
d. Enzymes

23. Restriction enzymes are also called:
a. Molecular scalpels
b. Molecular scissors
c. Molecular knives
d. Molecular pins

24. The Golden Rice variety is rich in:
a. Vitamin C
b. Lysine
c. Biotin
d. B-carotene and ferritin

25. The DNA fragments have sticky ends due to:
a. Endonuclease
b. Unpaired bases
c. Calcium ions
d. Free methylation

26. The correct sequence of different steps of polymerase chain reaction is:
a. annealing → denaturation → extension Boyer
b. denaturation → extension → annealing
c. denaturation → annealing → extension
d. extension → denaturation → annealing

27. Excision and insertion of a gene is called:
a. Biotechnology
b. Genetic engineering
c. Cytogenetics
d. Gene therapy

28. The letter R in EcoRI is derived from:
a. The name of genus
b. The name of strain
c. The name of species
d. The name of sites

29. Enzyme ‘Taq polymerase’ used in PCR, has been isolated from bacterium:
(a) Agrobacterium tumefaciens
(b) Streptomyces albus
(c) Thermus aquaticus
(d) Escherichia coli

30. Which of the following is not used to transfer the recombinant DNA into the host?
(a) Microinjection method
(b) Gene gun method
(c) electroporation method
(d) Bioreactor method

31. During isolation of genetic material, the chemical used to precipitate out the purified DNA is:
(a) Bromophenol blue
(b) Chilled ethanol
(c) Ethidium bromide
(d) 5-Bromo uresil

32. The first restriction endonuclease isolated was:
    (a) EcoRI
    (b) BamHI
    (c) PvuI
    (d) HindII
33. Name the technique which is used to enhance the life of a tomato:
    a) Antisense technology
    b) In vitro gene transfer
    c) Ex vivo gene transfer
    d) Molecular farming
34. The pair of hormones required for a callus to differentiate are:
    (a) Ethylene and Auxin
    (b) Auxin and cytokinin
    (c) Auxin and Abscisic acid
    (d) Cytokinin and gibberellin
35. Haploid plants can be obtained from:
    (a) Anther culture
    (b) Bud culture
    (c) Leaf culture
    (d) Root culture
36. Which of the following vectors is used in crop improvement and crop management?
    (a) Phasmid
    (b) Plasmid
    (c) Cosmid
    (d) Agrobacterium

37. Which of the following plant cells shows totipotency?
    (a) Cork cells
    (b) Meristem
    (c) Sieve tube
    (d) Xylem vessels
38. Following which is the type of Cell culture
    a) Organ culture
    b) Callus culture
    c) Protoplast culture
    d) Explant culture
39. The ability of single cells to divide and produce all differentiated cells in the entity.
    (a) Totipotency
    (b) Multipotent
    (c) Pluripotent
    (d) Unipotent
40. Laminar airflow is used for the following reasons except:
    a) Preparing media
    b) Transferring explants
    c) Aseptic transfer
    d) For culture growth
41. Which of the following chemicals are most widely used for protoplast fusion?
    (a) Mannitol
    (b) Polyethylene glycol
    (c) Sorbitol
    (d) Mannol
42. Zinc as micronutrient is used in culture media for:
    a) Protein synthesis
    b) DNA replication
    c) Enzyme synthesis
    d) For photosynthesis

43. What is Dimethyl sulfoxide used for?
    (a) A gelling agent
    (b) Cryoprotectant
    (c) Chelating agent
    (d) An Alkylating agent
44. In tissue culture system, this is the main effect of cytokines
    (a) shoot elongation
    (b) adventitious shoot formation
    (c) induction of somatic embryos
    (d) adventitious root formation
45. What we called the amalgamation and rapid unification between countries?
    (a) Globalization
    (b) Liberlization
    (c) Sterilization
    (d) Specialization
46. Give the full form of WCO.
    (a) World Cosmic Organization
    (b) World Classic Organization
    (c) World Custom Organization
    (d) World Causes Organization
47 The chloroplast genome is also recognized by
    (a) Plasma
    (b) Plastic
    (c) Plasmid
    (d) Plastome
48. The growth of plant tissue in artificial media is called____.
    (a) Plant anatomy
    (b) Plant tissue culture
    (c) Plant physiology
    (d) Plant ecology
49. Artificial seeds, which are also known as_____.
    (a) Synseeds
    (b) Genseeds
    (c) Peeseeds
    (d) Seaweeds
50. In ptc (plant tissue culture) an unorganized mass of cells is called_____.
    (a) Pilius
    (b) Collum
    (c) Caller
    (d) Callus