

JEMAS(PG)-2024
Subject: Fellowship in Pain Management (FPM)

QB No: 4101500001

Duration: 90 minutes

No of MCQ: 100

Full Marks: 100

INSTRUCTIONS

1. All questions are of objective type having four answer options for each.
2. **Category-1:** Carries **1** mark each and only one option is correct. In case of incorrect answer or any combination of more than one answer, $\frac{1}{4}$ mark will be deducted.
3. Questions must be answered on OMR sheet by darkening the appropriate bubble marked A, B, C, or D.
4. Use only **Black/Blue ink ball point pen** to mark the answer by filling up of the respective bubbles completely.
5. Write Question Booklet number and your roll number carefully in the specified locations of the **OMR** sheet. Also fill appropriate bubbles.
6. Write your name (in block letter), name of the examination center and put your signature (as is appeared in Admit Card) in appropriate boxes in the **OMR sheet**.
7. The OMR sheet is liable to become invalid if there is any mistake in filling the correct bubbles for Question Booklet number/roll number or if there is any discrepancy in the name/ signature of the candidate, name of the examination center. The OMR sheet may also become invalid due to folding or putting stray marks on it or any damage to it. The consequence of such invalidation due to incorrect marking or careless handling by the candidate will be sole responsibility of candidate.
8. Candidates are not allowed to carry any written or printed material, calculator, pen, log-table, wristwatch, any communication device like mobile phones, bluetooth devices etc. inside the examination hall. Any candidate found with such prohibited items will be **reported against** and his/her candidature will be summarily cancelled.
9. Rough work must be done on the Question Booklet itself. Additional blank pages are given in the Question Booklet for rough work.
10. Hand over the OMR sheet to the invigilator before leaving the Examination Hall.
11. Candidates are allowed to take the Question Booklet after examination is over.

Signature of the Candidate: _____

(As in Admit Card)

Signature of the Invigilator: _____

ROUGH WORK ONLY

FPM

1. Which of the followings nerve blocks are generally useful for breast cancer surgeries?
 - (A) Pecs 1 block.
 - (B) Pecs 2 block.
 - (C) SAP block.
 - (D) All of these.
2. Intraoperative SSEP monitoring in posterior cranial fossa tumour surgery is affected minimally by:
 - (A) Opioids.
 - (B) Volatile anaesthetics.
 - (C) Nitrous oxide.
 - (D) All of the above.
3. For amputation at mid-thigh the following nerves must be blocked except:
 - (A) Obturator nerve.
 - (B) Femoral nerve.
 - (C) Sciatic nerve.
 - (D) Genitofemoral.
4. Which of the following anaesthetic induction agent is used also for chronic pain management?
 - (A) Ketamine.
 - (B) Propofol.
 - (C) Thiopentone sodium.
 - (D) Etomidate.
5. Low back pain due to facet joint arthropathy:
 - (A) Increases with forward bending.
 - (B) Increases with backward bending.
 - (C) Decreases with lateral bending.
 - (D) Decreases with rotational movement of spine.
6. Which of the following concentrations of epinephrine corresponds to a 1:200,000 mixture?
 - (A) 0.5 µg/mL.
 - (B) 5 µg/mL.
 - (C) 50 µg/mL.
 - (D) 0.5 mg/mL.
7. Which of the following patterns of plasma concentrations describes the neurohumoral response (stress response) associated with pain?
 - (A) Increased adrenocorticotropin hormone, cortisol, antidiuretic hormone, catecholamines, aldosterone, renin, angiotensin II, and glucose; decreased insulin and testosterone.
 - (B) Decreased adrenocorticotropin hormone, cortisol, antidiuretic hormone, catecholamines, aldosterone, renin, angiotensin II, and glucose; increased insulin and testosterone.
 - (C) Increased adrenocorticotropin hormone, cortisol, antidiuretic hormone, catecholamines, aldosterone, renin, angiotensin II, and glucose; no changes in insulin and testosterone.
 - (D) Decreased adrenocorticotropin hormone, cortisol, antidiuretic hormone, catecholamines, aldosterone, renin, angiotensin II, and glucose; no change in insulin and testosterone.

8. What is the best definition of “pharmacodynamics”?
- (A) The description of how one drug can change the concentration of another drug in the body.
 - (B) The evaluation of the concentration, activity and effect of drugs within the body.
 - (C) Explanation of why a patient may need a higher drug dose over time to get the same effect.
 - (D) The study of the absorption, distribution, metabolism and elimination of drugs in the body.
9. What is the proposed mechanism by which cryotherapy reduces pain?
- (A) It increases cellular metabolism, causing the release of cytokines.
 - (B) It causes vasodilation.
 - (C) It lowers the threshold of activation of the muscle spindle.
 - (D) It stimulates thermoreceptors, thus inhibiting painful stimulus by the gate control theory.
10. Neuronal plasticity occurs in the afferent pathways during chronic pain. Plasticity is especially relevant for which type of pain?
- (A) Neuropathic.
 - (B) Somatic.
 - (C) Physiologic.
 - (D) Visceral.
11. What is the difference between paraesthesia and dysesthesia?
- (A) One term refers to an odd sensation, while the other refers to an unpleasant sensory experience.
 - (B) One term refers to an unpleasant stabbing sensation, while the other refers to an unpleasant burning sensation.
 - (C) One term refers to a decreased sensitivity to stimulation, while the other refers to an unpleasant sensory experience in a desensitized area.
 - (D) One term refers to a sensation that is often described as "insects crawling on skin", while the other refers to a loss of sensation.
12. Which of the following tests is used to confirm coagulation after stopping low-molecular-weight heparin (LMWH)?
- (A) PT.
 - (B) aPTT.
 - (C) ACT.
 - (D) None of the above.
13. Ondansetron causes its antiemetic effect by acting as an:
- (A) Agonist at 5-HT₂ receptors.
 - (B) Antagonist at 5-HT₂ receptors.
 - (C) Agonist at 5-HT₃ receptors.
 - (D) Antagonist at 5-HT₃ receptors.
14. Which of the following nerve fibres usually mediate nociception that is interpreted as sharp, easily localized pain?
- (A) A-alpha.
 - (B) A-beta.
 - (C) A-delta.
 - (D) C.

15. According to WHO pain ladder in STEP- 2 (mild to moderate pain) which drug is not included:
(A) NSAIDS.
(B) Codeine.
(C) Morphine.
(D) Pregabalin.
16. Which of the following medications is associated with extrapyramidal effects?
(A) Midazolam.
(B) Glycopyrrolate.
(C) Metoclopramide.
(D) Famotidine.
17. Highest plasma concentration of a local anaesthetic will occur if infiltrated via which of the following routes?
(A) Tracheal.
(B) Caudal.
(C) Intercostal.
(D) Brachial plexus.
18. Which of the following is least likely to improve a suboptimal Ultra sonographic (US) image?
(A) Changing the focal point of the transducer.
(B) Altering the angle of the transducer.
(C) Turning the overall gain up to the maximum.
(D) Moving the patient.
19. Most common type of pain in cancer patients:
(A) Visceral pain.
(B) Somatic pain.
(C) Nociceptive pain.
(D) Neuropathic pain.
20. Type(s) of symptomatic pain conditions that best describe “chronic” pain often includes:
(A) Neuropathic pain alone.
(B) Nociceptive pain alone.
(C) Neuropathic or nociceptive pain.
(D) Somatic or visceral pain.
21. The guiding principle of radiation safety is “ALARA”. ALARA stands for:
(A) “as low as reasonably allowable”.
(B) “as low as reasonably achievable”.
(C) “as less as reasonably achievable”.
(D) “as less as reasonably allowable”.
22. Brown-Sequard syndrome is characterised by contralateral:
(A) Loss of pain & temperature.
(B) Loss of pressure & vibration.
(C) Motor deficit.
(D) Ataxia.

23. A 50 year old senior administrator who presents with Right sided earache of one month's duration. The pain radiates into the temple area and down the side of her face. The pain is worst when she wakes up in the morning and after eating. On examination the ear is clear, there is lateral deviation of the jaw on opening and all other observations are normal. The most likely diagnosis is:
- (A) Temporal arteritis.
 - (B) Trigeminal neuralgia.
 - (C) Temporo-mandibular joint dysfunction.
 - (D) Eustachian Tube Dysfunction.
24. Blood supply to spinal cord:
- (A) 2 posterior spinal and 2 anterior spinal arteries.
 - (B) 1 posterior and 1 anterior spinal artery.
 - (C) 2 posterior and 1 anterior spinal artery.
 - (D) Branches of lumbar arteries.
25. Which of the following is false regarding tramadol?
- (A) It has opioid characteristics.
 - (B) There is a dose limit of 400 mg/d.
 - (C) It is a centrally acting analgesic.
 - (D) No effect on norepinephrine or serotonin.
26. Greater Occipital nerve has contribution from:
- (A) Ventral Primary rami of C2 & few fibers from C3.
 - (B) Dorsal Primary rami of C2 & few fibers from C3.
 - (C) Dorsal Primary rami of C3 & few fibers from C2.
 - (D) Ventral Primary rami of C3 & few fibers from C2.
27. Artery of Adamkiewicz arises at following spinal level:
- (A) T1-T6.
 - (B) T5-T8.
 - (C) T9-L2.
 - (D) T11-L.
28. Pain receptor is type of:
- (A) Meissner corpuscles.
 - (B) Pacinian corpuscles.
 - (C) Free nerve endings.
 - (D) Motor end plate.
29. Lateral femoral cutaneous block is indicated for which of the following conditions?
- (A) Meralgia paresthetica.
 - (B) Femoral neuralgia.
 - (C) Saphenous neuralgia.
 - (D) Groin pain.
30. The sciatic nerve is formed by:
- (A) The dorsal rami of S1-S5 spinal nerve.
 - (B) The ventral rami of S1-S5 spinal nerve.
 - (C) The dorsal rami of L4-S3 spinal nerve.
 - (D) The ventral rami of L4-S3 spinal nerve.

31. Pain is carried by:
- (A) Myelinated $A\gamma$ & unmyelinated C fibers.
 - (B) Unmyelinated $A\gamma$ & myelinated C fibers.
 - (C) Myelinated $A\beta$ & Myelinated $A\alpha$.
 - (D) Myelinated $A\delta$ & unmyelinated C fibers.
32. Pain modulation occurs in:
- (A) Sensory cortex.
 - (B) Thalamus.
 - (C) Periaqueductal grey matter.
 - (D) Reticular formation.
33. Role of Endogenous opioids in pain pathway:
- (A) Transduction.
 - (B) Transmission.
 - (C) Modulation.
 - (D) Perception.
34. According to 'Gate Control Theory', the Gate cell(neuron) is:
- (A) Dorsal horn cell.
 - (B) Interneuron of SGR.
 - (C) Lateral horn cell.
 - (D) Neuron of final common pathway.
35. Which of the following opioids has the greatest potential to cause endogenous histamine release when administered intravenously?
- (A) Hydromorphone.
 - (B) Oxymorphone.
 - (C) Morphine.
 - (D) Fentanyl.
36. Which statement indicates the development of opioid tolerance?
- (A) Larger doses of opioids are needed to control pain, as compared to several weeks earlier.
 - (B) Stimulants are needed to counteract the sedating effects of opioids.
 - (C) The patient becomes anxious about knowing the exact time of the next dose of opioid.
 - (D) The patient no longer experiences constipation from the usual dose of opioid.
37. Personnel radiation protection can be achieved by:
- (A) Lead aprons.
 - (B) Lead glasses.
 - (C) Increased distance from the x-ray.
 - (D) All of the above.
38. Most commonly missed nerve with interscalene approach to brachial plexus:
- (A) Ulnar.
 - (B) Median.
 - (C) Musculocutaneous.
 - (D) Radial.

39. Curvilinear USG probe can be used for:
- (A) Brachial plexus block.
 - (B) Caudal epidural block.
 - (C) Stellate ganglion block.
 - (D) Coeliac plexus block.
40. A distinguishing feature of a cluster headache is that it occurs:
- (A) Bilaterally.
 - (B) Globally.
 - (C) Occipitally.
 - (D) Unilaterally.
41. SPIKES protocol is used for:
- (A) Taking care of spirituality at the end of life.
 - (B) For breaking bad news to patients and their families.
 - (C) As a request for non-disclosure.
 - (D) Communication with terminally ill patients and their families.
42. The femoral nerve lies:
- (A) Medial to the femoral artery.
 - (B) Anterior to the femoral artery.
 - (C) Posterior to the femoral artery.
 - (D) Lateral to the femoral artery.
43. Systemic responses of the human body that can develop secondary to symptoms of acute pain include all of the following, except:
- (A) Hypertension and tachycardia.
 - (B) Increased work of breathing.
 - (C) Urinary retention.
 - (D) Increased peristalsis.
44. Gasserian ganglion block is most commonly used for neuropathic pain located in which of the following nerve distributions?
- (A) Facial nerve.
 - (B) Trigeminal nerve.
 - (C) Glossopharyngeal nerve.
 - (D) Vagus nerve.
45. Abrupt withdrawal of steroids can lead to:
- (A) Malignant hypertension.
 - (B) Sick cell crisis.
 - (C) Addisonian crisis.
 - (D) Psychosis.
46. What happens to the USG image if probe frequency increases?
- (A) Penetration increases and resolution increases.
 - (B) Penetration decreases and resolution increases.
 - (C) Penetration decreases and resolution decreases.
 - (D) Penetration increases and resolution decreases.

47. Which of the following is the earliest sign of lidocaine toxicity from a high blood level?
- (A) Shivering.
 - (B) Nystagmus.
 - (C) Light-headedness and dizziness.
 - (D) Tonic-clonic seizures.
48. Jump sign is positive in:
- (A) Fibromyalgia.
 - (B) Myofascial pain.
 - (C) Post herpetic neuralgia.
 - (D) Osteoarthritis.
49. Commonest pain generator of low back pain in elderly is:
- (A) Disc desiccation.
 - (B) Disc prolapsed.
 - (C) Facet joint.
 - (D) Nerve impingement.
50. WHO pain ladder, intervention is included in step:
- (A) Step I.
 - (B) Step II.
 - (C) Step III.
 - (D) Step IV.
51. Tinel's sign is positive in:
- (A) Carpal tunnel syndrome.
 - (B) Dequervain's disease.
 - (C) Osteoarthritis.
 - (D) Rheumatoid arthritis.
52. USG scanning shows traffic light sign in:
- (A) Stellate ganglion block.
 - (B) Interscalanae brachial plexus block.
 - (C) Supraclavicular brachial plexus block.
 - (D) Infraclavicular brachial plexus block.
53. Which is not a part of Hamstring muscle?
- (A) Semimembranosus.
 - (B) Gracilis.
 - (C) Semitendinosus.
 - (D) Biceps Femoris.
54. The spinal cord of newborns extends to the:
- (A) L1 vertebra.
 - (B) L2-L3 vertebrae.
 - (C) L4-L5 vertebrae.
 - (D) S1 vertebra.

55. What is “transduction”?
- (A) Converting the signal into an awareness of a pain.
 - (B) Relaying a nociceptive signal to the brain.
 - (C) Converting a noxious stimulus into an electrical signal.
 - (D) Relaying a noxious stimulus to the spinal cord.
56. What is neuropraxia?
- (A) Pain due to peripheral nerve injury.
 - (B) Loss of conduction of a nerve.
 - (C) Abnormal signals are sent by a nerve.
 - (D) Anatomical disruption of a nerve.
57. Which one of the following acts as second messenger?
- (A) Mg.
 - (B) Cl⁻.
 - (C) Ca⁺⁺.
 - (D) PO₄⁺³.
58. Which of the following disease-modifying anti-rheumatoid drugs is a prodrug?
- (A) Etanercept.
 - (B) Nimesulide.
 - (C) Sulfasalazine.
 - (D) Colchicine.
59. Which of the drug is not a sodium channel modulating anti-convulsant?
- (A) Phenytoin.
 - (B) Carbamazepine.
 - (C) Pregabalin.
 - (D) Lamotrigine.
60. Epidemiology involves:
- (A) Study of distribution of diseases.
 - (B) Study of determinant of diseases.
 - (C) Measurement of disease frequency.
 - (D) All of the above.
61. Risk factors for Frozen Shoulder are all except one:
- (A) Diabetes.
 - (B) Hypothyroid.
 - (C) Rheumatoid arthritis.
 - (D) Overactivity of shoulder.
62. First line drug used for painful diabetic neuropathy:
- (A) Carbamazepine.
 - (B) Gabapentin.
 - (C) Venlafaxine.
 - (D) Tramadol.

63. Red flag signs for Low Back Pain:
- (A) Pain persisting for more than 1 year.
 - (B) History of spinal trauma.
 - (C) Pain at night time.
 - (D) None of the above.
64. Usually Radicular pain increases during:
- (A) Flexion.
 - (B) Extension.
 - (C) Lateral Rotation.
 - (D) Squatting.
65. Palliative Care should be started in a person from:
- (A) Whenever patients want.
 - (B) Diagnosis of the disease.
 - (C) When the treatment starts.
 - (D) After all modes of treatment options have expired.
66. 1st line drug for Nausea and vomiting associated with Morphine is:
- (A) Ondansetron.
 - (B) Granisetron.
 - (C) Aprepitant.
 - (D) Metoclopramide.
67. Which of the following is an appropriate means to objectively document pain in a 4 month old?
- (A) Ask the bedside nurse.
 - (B) Use a numerical score of 1-10.
 - (C) Use a FLACC assessment.
 - (D) Guess based on the infant's facial expression.
68. Medial meniscus is more vulnerable to injury because of?
- (A) Its fixity to tibial collateral ligament.
 - (B) Its semicircular shape.
 - (C) Action of adductor magnus.
 - (D) Its attachment to fibrous capsule.
69. All of following can result after post ganglion impar block except:
- (A) Rectum pucture.
 - (B) Discitis.
 - (C) Cauda equina syndrome.
 - (D) None of the above.
70. Which is not a feature of opioid withdrawal?
- (A) Polyuria.
 - (B) Rhinorrhea.
 - (C) Yawning.
 - (D) Insomnia.

71. Contraindications to vasoconstrictors in local anaesthesia:
- (A) Tumescence anaesthesia.
 - (B) Epidural anaesthesia.
 - (C) Digital nerve block.
 - (D) Infiltration anaesthesia.
72. Components of Total pain is:
- (A) Physical, Economical, Psychological, Spiritual.
 - (B) Physical, Social, Psychological, Spiritual.
 - (C) Physical, Emotional, Economical, Spiritual.
 - (D) Physical, Emotional, Religious, Social.
73. Which of the following has transverse process but not vertebral artery foramen?
- (A) C1.
 - (B) C3.
 - (C) C5.
 - (D) C7.
74. The gate theory of Pain proposed by:
- (A) Cannon and Bard.
 - (B) Gabor Racz.
 - (C) Wall and Melzack.
 - (D) Weber.
75. Most common symptom of a cancer patient is:
- (A) Weight loss.
 - (B) Nausea and vomiting.
 - (C) Pain.
 - (D) Cachexia.
76. Management of Acute Low Back Pain includes all except:
- (A) Bed rest for maximum 3 days.
 - (B) NSAIDS.
 - (C) Muscle Relaxants.
 - (D) Traction.
77. Complex regional pain syndrome type II (CRPS II) differs from CRPS I because in CRPS II there is:
- (A) Allodynia.
 - (B) Movement disorder.
 - (C) Evidence of major nerve damage.
 - (D) Sudomotor and vasomotor changes.
78. All are the primary headache except:
- (A) Migraine.
 - (B) Tension headache.
 - (C) Cluster headache.
 - (D) Cervicogenic headache.

79. Who is the pioneer of palliative care movement?
(A) Dr Robert Twycross.
(B) Dr M.R Rajagopal.
(C) Dame Cicely Saunders.
(D) Florence Nightingale.
80. Morphine is used in:
(A) Cancer pain.
(B) Non-Cancer pain.
(C) Both of the above.
(D) None of the above.
81. Cause of pain at lateral aspect of forearm are all, except one:
(A) Golfer's elbow.
(B) C6 radiculopathy.
(C) C5 radiculopathy.
(D) Tennis elbow.
82. Which one of the following is the shortest acting intravenous analgesic?
(A) Fentanyl.
(B) Alfentanyl.
(C) Ramifentanyl.
(D) Sufentanyl.
83. Buprenorphine acts on following receptors EXCEPT:
(A) Partial μ -opioid receptor agonist.
(B) κ opioid antagonist.
(C) δ opioid agonist.
(D) δ opioid antagonist.
84. Pott's spine is mostly prevalent in:
(A) Cervical spine.
(B) Dorsal spine.
(C) Lumbar spine.
(D) Lumbosacral spine.
85. Allodynia is defined as:
(A) Pain is caused by stimulus that does not normally provoke pain.
(B) Hypersensitivity to a painful stimulus.
(C) Spontaneous pain in an anaesthetized part of body.
(D) An unpleasant abnormal sensation may be spontaneous or evoked.
86. Shoulder joint is mostly supplied by:
(A) Cervical plexus.
(B) Suprascapular nerve.
(C) Musculocutaneous nerve.
(D) Intercostobrachial nerve.

87. Which type of nerve fibre carries Fine touch?
- (A) A -alpha.
 - (B) A -beta.
 - (C) A - gama.
 - (D) A- delta.
88. Number of vertebrae and spinal nerves in human body:
- (A) 32 and 31 pairs.
 - (B) 32 and 33 pairs.
 - (C) 33 and 32 pairs.
 - (D) 33 and 31 pairs.
89. How are most C fibre nociceptors characterized?
- (A) High threshold mechanoreceptors.
 - (B) Low threshold chemoreceptors.
 - (C) Low threshold, thermal-mechanical receptors.
 - (D) High threshold, polymodal receptors.
90. Which of the following is a negative acute phase reactant?
- (A) Albumin.
 - (B) CRP.
 - (C) α 2 macroglobulin.
 - (D) Transferrin.
91. Hypercalcemia associated with malignancy is most often mediated by:
- (A) Parathyroid hormone (PTH).
 - (B) Parathyroid hormone related protein (PTHrP).
 - (C) Interleukin – 6 (IL-6).
 - (D) Calcitonin.
92. Nerve damage can be detected by which of the following test?
- (A) EMG.
 - (B) EEG.
 - (C) BERA.
 - (D) NCV.
93. Which of the following is true about transdermal drug delivery?
- (A) Relatively constant, sustained therapeutic plasma drug concentrations.
 - (B) Commonly higher side-effect incidence.
 - (C) Poor patient compliance.
 - (D) Less expensive.
94. The drug Lignocaine is used for:
- (A) Local anaesthesia.
 - (B) Treatment of cardiac arrhythmia.
 - (C) Treatment of chronic pain management.
 - (D) All of the above.

95. Drug of choice for Trigeminal Neuralgia:
- (A) Carbamazepine.
 - (B) Gabapentin.
 - (C) Lamotrigine.
 - (D) Oxcarbazepine.
96. Antidepressant, which does not cause weight-gain:
- (A) Amitriptyline.
 - (B) Topiramate.
 - (C) Imipramine.
 - (D) Duloxetine.
97. Most strongly recommended intervention for management of knee osteoarthritis is:
- (A) Intra articular corticosteroid.
 - (B) Total Knee Replacement Surgery.
 - (C) Exercise and weight reduction.
 - (D) Radiofrequency ablation of genicular nerve supplying knee joints.
98. Maxillary Nerve exits through:
- (A) Foramen Magnum.
 - (B) Foramen Spinosum.
 - (C) Foramen Ovale.
 - (D) Foramen rotundum.
99. Relative risk is calculated in:
- (A) Case control study.
 - (B) Cohort study.
 - (C) Both of them.
 - (D) Descriptive study.
100. Absolute indication of spinal surgery in PIVD:
- (A) Canal APD <10 mm in MRI.
 - (B) Persisting radicular pain.
 - (C) Urinary incontinence.
 - (D) All of the above.