

JEMAS(PG)-2022

QB No: 2101500001

Subject: Fellowship in Pain Management (FPM)

Duration: 90 minutes

No of MCQ: 100

Full Marks: 100

Instructions

1. All questions are of objective type having four answer options for each, carry 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.
2. Questions must be answered on OMR sheet by darkening the appropriate bubble marked A, B, C, or D. Question booklet series code (A, B, C, or D) must be properly marked on the OMR.
3. Use only **Black/Blue ball point pen** to mark the answer by complete filling up of the respective bubbles.
4. Write question booklet number and your roll number carefully in the specified locations of the **OMR**. Also fill appropriate bubbles.
5. Write your name (in block letter), name of the examination center and put your full signature in appropriate boxes in the OMR.
6. The OMR 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 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.
7. Candidates are not allowed to carry any written or printed material, calculator, pen, log-table, wristwatch, any communication device like mobile phones etc. inside the examination hall. Any candidate found with such items will be **reported against** and his/her candidature will be summarily cancelled.
8. Rough work must be done on the question paper itself. Additional blank pages are given in the question paper for rough work.
9. Hand over the OMR to the invigilator before leaving the Examination Hall.

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1. Ramsay Hunt syndrome is caused by infection of varicella-zoster virus of
 - (A) Sphenopalatine ganglion
 - (B) Gasserian ganglion
 - (C) Geniculate ganglion
 - (D) Glossopharyngeal ganglion
2. Each of the following is effective in the treatment of pain from acute herpes zoster EXCEPT:
 - (A) Acyclovir
 - (B) Carbamazepine
 - (C) Corticosteroids
 - (D) Topical aspirin
3. The pain management nurse observes a patient with complex regional pain syndrome who is not wearing the right-side jacket sleeve. The patient reports intense, right arm pain upon light touch. The nurse recognizes this pain as:
 - (A) Allodynia
 - (B) Hypoalgesia
 - (C) Neuritis
 - (D) Paresthesia
4. A distinguishing feature of a cluster headache is that it occurs:
 - (A) Bilaterally.
 - (B) Globally
 - (C) Occipitally.
 - (D) Unilaterally
5. The pain management physician assesses a 67-year-old patient for reports of episodic, sudden-onset, right-sided facial pain. The patient describes the pain as fleeting, electric-like and triggered by light touch and brushing of the teeth. The nurse suspects:
 - (A) Facet syndrome
 - (B) Myofascial pain syndrome
 - (C) Temporomandibular disorder.
 - (D) Trigeminal neuralgia
6. A 12-year-old oncology patient who is receiving in-home care without IV access needs medication for breakthrough pain. The pain management nurse's most effective route of administration to recommend is:
 - (A) Intranasal
 - (B) Nebulized
 - (C) Oral transmucosal
 - (D) Transdermal

7. 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”
8. Linear US probe can be used for all of the following nerve blocks except:
 - (A) Brachial plexus block
 - (B) Caudal epidural block
 - (C) Stellate ganglion block
 - (D) Coeliac plexus block
9. 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
10. 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
11. Brown-Sequard syndrome is characterised by contralateral:
 - (A) Loss of pain & temperature
 - (B) Loss of pressure & vibration
 - (C) Motor deficit
 - (D) Ataxia
12. A brachial plexus block is indicated for all of the following conditions EXCEPT
 - (A) Sympathetic independent pain due to reflex sympathetic dystrophy
 - (B) Brachialplexalgia
 - (C) Angina
 - (D) Raynaud's disease
13. Cell bodies of preganglionic fibers of the lumbar sympathetic chain arise at which of the following sites?
 - (A) T5-T9
 - (B) T11-L2
 - (C) L3-L5
 - (D) S1-S4

14. 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
15. Complex Regional Pain Syndrome:
- (A) Characterized by disabling pain, swelling, vasomotor instability, sudomotor abnormality and impairment of motor function
 - (B) Type II CRPS was formally known as reflex sympathetic dystrophy
 - (C) To be managed with sympathetic blocks only.
 - (D) Physiotherapy has no role
16. Regarding Epidural Abcess -which is WRONG
- (A) Diagnosis is DEPENDENT on triad of back pain, fever and paralysis
 - (B) Occurs at a rate of 1:1000-3000 (OR 1:2000 -1:5000)
 - (C) Worse outcomes if advanced age
 - (D) Usually gram positive cocci
17. Sympathetic blocks are used in the following conditions: except
- (A) Reynaud's syndrome.
 - (B) Herpes zoster.
 - (C) Chronic pancreatitis.
 - (D) Migraine.
18. The vertebral artery traverses all of the following except?
- (A) Foramen magnum
 - (B) Subarachnoid space
 - (C) Intervertebral foramen
 - (D) Foramen transversarium
19. Most commonly missed nerve with interscalene approach to brachial plexus:
- (A) Ulnar
 - (B) Median
 - (C) Musculocutaneous
 - (D) Radial
20. Artery of Adamkiewicz arises at following spinal level
- (A) T1-T6
 - (B) T5-T8
 - (C) T9-L2
 - (D) T11-L3

21. Potential complications of stellate ganglion block all except
(A) Pneumothorax
(B) Lesion of recurrent laryngeal nerve
(C) Neuritis
(D) Horner's syndrome
22. Blood supply to spinal cord
(A) 2 posterior spinal and 2 anterior spinal artery
(B) 1 posterior and 1 anterior spinal artery
(C) 2 posterior and 1 anterior spinal artery
(D) Branches of lumbar arteries
23. All of the following are true about glossopharyngeal nerve block except:
(A) Styloid process is an important landmark
(B) Used to differentiate geniculate ganglion neuralgia
(C) Used in awake intubation
(D) Useful in significant behavioral abnormalities and atypical facial pain.
24. Radiation dose to the patients and medical personnel can be reduced by:
(A) Decreasing the distance between the image intensifier and the patient
(B) Increasing the distance between the image intensifier and the patient
(C) Using continuous fluoroscopy
(D) Oblique views
25. 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
26. Visual analogue scale (VAS) all are true except
(A) Correlate highly with pain measured on verbal and numerical rating scales
(B) Is minimally intrusive
(C) Assumes that pain is a multidimensional experience
(D) Measures the intensity of pain
27. McGill Pain Questionnaire
(A) Consists of three major measures
(B) Was developed by McGill
(C) Is not widely used
(D) Is a single-dimensional pain scale

28. The least common adverse effects associated with TCA are (is)
- (A) Dry mouth
 - (B) Seizure
 - (C) Urinary retention
 - (D) Blurred vision
29. 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
30. Which of the following statements regarding the anatomy of the superior hypogastric plexus is NOT true?
- (A) It lies anterior to L5 vertebra.
 - (B) It lies just inferior to the aortic bifurcation.
 - (C) It lies right of midline.
 - (D) It branches left and right and descends to form the inferior hypogastric plexus
31. Which statement regarding the use of opioids for the management of acute pain is true?
- (A) In adult patient weight is the best predictor of opioid requirements
 - (B) Metabolism to codeine-6-glucuronide produces the analgesic effect of codeine
 - (C) morphine produces more nausea and vomiting than pethidine
 - (D) tramadol has a lower risk of respiratory depression than other opioids at equianalgesic doses
32. Anti depressant drugs are useful in the management of all of the following conditions EXCEPT:
- (A) chronic back pain
 - (B) chronic headaches
 - (C) chronic neuropathic pain after breast surgery
 - (D) trigeminal neuralgia
33. A lateral femoral cutaneous block is indicated for which of the following conditions?
- (A) Meralgia paresthetica
 - (B) Femoral neuralgia
 - (C) Saphenous neuralgia
 - (D) Groin pain
34. The lesser splanchnic nerve is formed by which of the following sympathetic nerves?
- (A) T5-T7
 - (B) T8-T9
 - (C) T10-T11
 - (D) T12

35. 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
36. Which of the following substances inhibits excitatory synaptic transmission in the spinal cord?
- (A) substance P
 - (B) glutamate
 - (C) nerve growth factor
 - (D) gamma-aminobutyric acid (GABA)
37. Which of the following nerve fibers usually mediate nociception that is interpreted as sharp, easily localized pain?
- (A) A-alpha
 - (B) A-beta
 - (C) A-delta
 - (D) C
38. Which of the following neurotransmitters is central to the process of sensitization within the dorsal horn of the spinal cord?
- (A) glycine
 - (B) glutamate
 - (C) serotonin
 - (D) norepinephrine
39. Activation of the autonomic nervous system initiated by stress can result in all of the following EXCEPT:
- (A) tachycardia
 - (B) miosis
 - (C) hypertension
 - (D) tachypnea
40. What is "projection"?
- (A) modification of the nociceptive signal, such that the pain is better identified.
 - (B) conversion of the nociceptive signal to an electrical signal.
 - (C) relay of the nociceptive signal to the brain for final processing and awareness.
 - (D) alteration of the nociceptive signal by the brain to elicit protective motor responses

41. What term is used to describe the minimal stimulus required to elicit a transmitted response from a sensory receptor?
- (A) action potential.
 - (B) dermatome.
 - (C) nociceptor.
 - (D) threshold.
42. Which two regions of the brain participate in integration of descending inhibition?
- (A) periaqueductal grey area and rostral ventromedial medulla.
 - (B) corpus callosum and thalamus.
 - (C) hippocampus and amygdala
 - (D) lateral ventricle and hippocampus
43. The details of the original 'gate control theory' have been shown to be inaccurate. However, the basic concept is still helpful. What is the best description of this concept?
- (A) Nonnoxious tactile stimulus can inhibit transduction of A-delta and C pain fibers.
 - (B) Nonnoxious tactile stimulus can cause modulation of nociceptive information in the spinal cord.
 - (C) Nonnoxious tactile stimulus can cause a distraction to impair pain perception in the brain.
 - (D) Nonnoxious tactile stimulus of superficial tissues can block sensation by the deeper tissues.
44. 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
45. Which of the following factors are considered when estimating the duration of action of epidurally administered opioids?
- (A) drug pKa
 - (B) amount of renal function
 - (C) drug lipid solubility
 - (D) integrity of the blood-brain barrier
46. 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

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47. What is the primary mechanism by which lidocaine and bupivacaine provide local analgesia?
- (A) desensitize the transient receptor potential (TRP) ion channels in peripheral nociceptors
 - (B) block sodium channels, thus inhibiting action potentials along A-delta and C fibers
 - (C) inhibit calcium influx, thus reducing the release of excitatory transmitter substances
 - (D) enhance potassium efflux, causing hyperpolarization to inhibit conduction in C fibers
48. Which of the following techniques would be LEAST effective as part of multimodal pain management for a lateral thoracotomy?
- (A) interpleural block
 - (B) intercostal block
 - (C) opioid epidural
 - (D) brachial plexus block
49. Which of the following statements concerning intra-articular (IA) corticosteroids is true?
- (A) IA triamcinolone has a longer duration of action than methylprednisolone.
 - (B) Corticosteroids have direct analgesic effect in the joint.
 - (C) IA corticosteroids are less effective for osteoarthritis compared to more inflammatory arthropathies, such as rheumatoid arthritis.
 - (D) The risks of IA corticosteroids are thought to outweigh the potential benefits
50. Which of the following best describes neuropathic pain?
- (A) pain that is intensified by fear or anxiety
 - (B) pain resulting from a stimulus that is not normally painful
 - (C) pain caused injury to the peripheral or central nervous system
 - (D) pain that only occurs with an intense noxious stimulus
51. A muscle which flexes both hip and knee joints is:
- (A) gluteus maximus
 - (B) biceps femoris
 - (C) rectus femoris
 - (D) sartorius
52. Nerve piercing and lying on psoas major is:
- (A) ilio inguinal
 - (B) iliohypogastric
 - (C) femoral
 - (D) genitofemoral
53. Abnormal lateral curvature of vertebral column is known as:
- (A) kyphosis
 - (B) lordosis
 - (C) scoliosis
 - (D) spondylolisthesis

54. Following are the contents of carpal tunnel EXCEPT:
- (A) median nerve
 - (B) ulnar nerve
 - (C) flexor pollicis longus
 - (D) flexor carpi radialis
55. The femoral nerve originates from which of the following roots:
- (A) T12, L1, L2
 - (B) L1, L2, L3
 - (C) L2, L3, L4
 - (D) L3, L4, L5
56. Which of the following structure in the spine is pain insensitive?
- (A) Nucleus pulposus
 - (B) Dura
 - (C) Annulus fibrosus
 - (D) Longitudinal ligaments
57. The main excitatory neurotransmitter in the CNS is:
- (A) Glycine
 - (B) Acetylcholine
 - (C) Aspartate
 - (D) Glutamate
58. Osteoclasts are inhibited by:
- (A) Parathyroid hormone
 - (B) Calcitonin
 - (C) 1,25-dihydroxycholecalciferol
 - (D) Tumor necrosis factor
59. Pharmacokinetics is:
- (A) The study of biological and therapeutic effects of drugs
 - (B) The study of absorption, distribution, metabolism and excretion of drugs
 - (C) The study of mechanisms of drug action
 - (D) The study of methods of new drug development
60. The primary mechanism of action of local anesthetics is:
- (A) Activation of ligand-gated potassium channels
 - (B) Blockade of voltage-gated sodium channels
 - (C) Stimulation of voltage-gated N-type calcium channels
 - (D) Blockade the GABA-gated chloride channels

61. Which one of the following local anesthetics causes methemoglobinemia?
(A) Prilocaine
(B) Procaine
(C) Lidocaine
(D) Ropivacaine
62. Which of the following opioid receptor types is responsible for euphoria and respiratory depression?
(A) Kappa-receptors
(B) Delta-receptors
(C) Mu-receptors
(D) All of the above
63. Which one of the following non-narcotic agents inhibits mainly cyclooxygenase (COX) in CNS?
(A) Paracetamol
(B) Ketorolac
(C) Acetylsalicylic acid
(D) Ibuprofen
64. The purpose is to limit the incidence of disease by controlling causes and risk factors:
(A) Primordial prevention
(B) Primary prevention
(C) Secondary prevention
(D) Tertiary prevention
65. Measures of central tendency, except:
(A) Mean
(B) Median
(C) Mode
(D) Variance
66. The probability of rejecting the null hypothesis when it is true:
(A) Type 1 error
(B) Type 2 error
(C) Power of a statistical test
(D) Level of significance
67. False statement regarding Complex Regional Pain Syndrome (CRPS) is:
(A) Type 1 CRPS occurs following a nerve injury
(B) Type 1 CRPS is also called as Reflex Sympathetic Dystrophy
(C) It occurs due to adrenergic sensitivity of afferent nociceptors
(D) CRPS Type 1 resolves with symptomatic treatment

68. The drug which is used for long term maintenance in opioid addiction:
- (A) Naloxone
 - (B) Nalorphine
 - (C) Butaphenol
 - (D) Methadone
69. Which of the following scale is not used for pain assessment in paediatric patient?
- (A) CHEOPS Scale
 - (B) TPPS Scale
 - (C) FLACC Scale
 - (D) VAS scale
70. Pneumothorax is a complication of:
- (A) Axillary block
 - (B) Brachial plexus block
 - (C) Epidural block
 - (D) High spinal block
71. An 85-year-old woman with chronic pain over her left breast for more than 1 year. The symptoms began after she broke out a rash in the same distribution. Which of the following statements is true?
- (A) Zoster reactivation is always accompanied by a rash
 - (B) Zoster reactivation may occur two to three times for a healthy individual
 - (C) Post herpetic neuralgia (PHN) is pain that persists for more than 120 days.
 - (D) All of the above
72. In Frozen shoulder , which type of shoulder joint movement is restricted:
- (A) Internal Rotation
 - (B) External Rotation
 - (C) Abduction
 - (D) All of the above
73. Mrs. Jones is a 78-year-old woman with a history of diabetes, treated with oral medications. Recently, she has been complaining of pain in her feet that she describes as "numbness and tingling". What is the most likely pathophysiologic type of pain in this case?
- (A) Nociceptive
 - (B) Inflammatory
 - (C) Neuropathic
 - (D) Functional
74. Most common cause of peripheral limb ischaemia in India is:
- (A) Trauma
 - (B) Atherosclerotic
 - (C) Burger's disease
 - (D) Takayasu's disease

75. What is the ideal time to introduce epidural infusion for labour analgesia?
- (A) At the onset of labour
 - (B) After 4 cm dilatation of cervix
 - (C) Anytime during 2nd stage of labour
 - (D) Whenever the patient wants
76. Artery of Adamkiewicz supplies:
- (A) Cerebellum
 - (B) Spinal Cord
 - (C) Thymus
 - (D) Prostate
77. Stellate Ganglion is composed of:
- (A) Sympathetic N
 - (B) Parasympathetic N
 - (C) Somatic N
 - (D) Motor N
78. Which muscle is the strongest flexor of the elbow?
- (A) Biceps
 - (B) Trapezius
 - (C) Deltoid
 - (D) Brachialis
79. Brodmann area 4 corresponds to which of the following areas of cerebral cortex:
- (A) Primary sensory cortex
 - (B) Primary motor cortex
 - (C) Broca's area
 - (D) Primary visual cortex
80. A patient presents with numbness and pain in the right side of their palm and ventral surfaces of the thumb, index and middle fingers, which of the following best explains their symptoms?
- (A) Median nerve neuropathy
 - (B) Cubital tunnel syndrome
 - (C) Guyon's canal syndrome
 - (D) Wartenberg syndrome
81. The number of sodium channels per square micrometre of membrane in myelinated mammalian neurons is maximum in the:
- (A) Cell body
 - (B) Dendritic Zone
 - (C) Initial Segment
 - (D) Node of Ranvier

82. Which of the following toxins inhibits the release of Acetylcholine from alpha motor neurons?
- (A) Botulinum
 - (B) Cholera Toxin
 - (C) Tetanus
 - (D) Saxitoxin
83. In pain pathway signals from periphery are transmitted to:
- (A) Ventral horn of the spinal cord
 - (B) Nucl. tractus solitarius
 - (C) Dorsal horn of the spinal cord
 - (D) Cerebral cortex
84. Which of the following is not a part of Samter's triad?
- (A) Asthma
 - (B) Tinnitus
 - (C) Nasal polyp
 - (D) Aspirin allergy
85. The term "vanilloid" refers to a group of substances related structurally and pharmacologically to:
- (A) vanilla
 - (B) tetrodotoxin
 - (C) opioids
 - (D) Capsaicin
86. What is the "therapeutic index" of a drug?
- (A) a measure of the likelihood to induce a therapeutic effect in 50% of treated animals
 - (B) a measure of the likelihood that a drug will cure an animal
 - (C) the dose of drug required to produce a specific effect in 50% of treated animals
 - (D) a measure of the margin of safety of a drug
87. Which of the following agents is LEAST effective in inducing preemptive analgesia?
- (A) mu opioid agonists
 - (B) inhalant anesthetic agents
 - (C) alpha adrenergic agonists
 - (D) local anesthetics
88. All of the following are seen in a patient suffering from migraine except,
- (A) Aura
 - (B) Unilateral headache
 - (C) Bradycardia
 - (D) Nausea

89. Relative risk is calculated in:
- (A) Case control study
 - (B) Cohort study
 - (C) Both of them
 - (D) Descriptive study
90. All are example of analytical epidemiological study except:
- (A) Case control study
 - (B) Cohort study
 - (C) Case series
 - (D) Vaccine trial
91. The process by which some members of a population are selected as representative of the entire population is known as:
- (A) Census
 - (B) Sampling
 - (C) Survey
 - (D) Randomization
92. Fatigue, insomnia, pain are the common features of:
- (A) Fibromyalgia
 - (B) Myofascial Pain
 - (C) Vitamin D deficiency
 - (D) PIVD
93. Which of the following statements regarding the NDPS act is true?
- (A) It provides for severe punishment for drug users & peddlers alike.
 - (B) Farmers are allowed to grow unlimited amounts of opium
 - (C) Consumption of excessive alcohol is punishable under the act
 - (D) The act recommends treatment of drug users rather than sending them to jail
94. Drug of choice in suspected opioid overdose is:
- (A) Atropine
 - (B) Naloxone
 - (C) Amphetamine
 - (D) Neostigmine
95. Which one of the following is the description used for the term allodynia during pain management?
- (A) Absence of pain perception
 - (B) Complete lack of pain sensation
 - (C) Unpleasant sensation with or without a stimulus
 - (D) Perception of an ordinarily non noxious stimulus as severe pain

96. The first choice drug for treating moderate to severe cancer pain:
- (A) Buprenorphine patch
 - (B) Morphine Injection
 - (C) Oral Morphine
 - (D) Fentanyl patch
97. Neuropathic pain is characterized by:
- (A) Tingling
 - (B) Numbness
 - (C) Burning Pain
 - (D) All of the above
98. 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.
99. Winging of scapula is due to palsy of:
- (A) Suprascapular nerve
 - (B) Dorsal scapular nerve
 - (C) Infrascapular nerve
 - (D) None of the above
100. Which of the following agents doesn't decrease bone resorption in osteoporosis?
- (A) Strontium ranelate
 - (B) Alandronate
 - (C) Teriparatide
 - (D) Raloxifene

