

GMCH COMBINED ENTRANCE TEST (GCET-2023)
B.Sc. Medical Technology (Anaesthesia & Operation Theatre Techniques):
Diploma in Anaesthesia and Operation Theatre Techniques
QUESTION BOOKLET

Time: 120 Minutes

Number of Question: 100

Maximum Marks: 100

Roll Number: In figure

In Words

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Signature of the Candidate: _____

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS-

1. Write your Roll Number and other details on the Question Booklet and also on the OMR Sheet in the spaces provided.
2. Do not make any identification marks on the OMR Answer Sheet or Question Booklet.
3. Please check that the Question Booklet contains 100 questions. In case of any discrepancy, inform the Assistant Superintendent/Invigilator within 10 minutes of the start of the test.
4. Each question has four alternative answer (A, B, C, D) out of which **only one is correct**. For each question, **darken only one bubble** (A, B, C, or D), whichever you think is the correct answer, on the OMR Answer sheet with **Blue / Black Ball Pen only**. Do not use Gel Pen/ ink pen /Pencil etc. Do not Tick $\sqrt{\quad}$ or \times on the OMR Sheet.
5. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the Questions given the Question Booklet.
6. In case more than one bubble is darkened no marks will be given and the question will be treated as wrong.
7. There will be no negative marking. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the OMR Answer sheet.
8. For rough work, use the blank sheet at the end of the Question Booklet.
9. The question paper includes 30 MCQ Anatomy/ Physiology (1-30); 35 MCQ Chemistry and Biology (31-65); 35 MCQ Anaesthesia and OT techniques (66-100).
10. The OMR Answer sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the OMR Answer sheet, it may make evaluation by the computer difficult. Any resultant loss to the candidates on the above account, i.e. not following instructions completely and properly, shall be the responsibility of the candidates only.
11. After the test, handover the Question Booklet and OMR sheet to the Invigilator on duty.
12. Candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper or the any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre superintendent/Observer whose decision shall be final.
13. Telecommunication equipment such as pager, cellular phone, wireless, scanner, smart watch/watch etc. is not permitted inside the examination hall. Use of calculators is not allowed.
14. Candidate should ensure accuracy of their personal details on the OMR Sheet i.e. Name and Roll No., signature and Left thumb impression. The personal details are to be filled in by the candidates with his/her own hand writing.

1. The animal cells are interconnected by:
 - A. Cell wall
 - B. Desmosomes
 - C. Plasma membrane
 - D. Plasmodesmata
2. Myelin sheath to the axons of the CNS is provided by:
 - A. Astrocytes
 - B. Oligodendrocytes
 - C. Microglia
 - D. Ependymal cells
3. The aortic valve prevents blood from flowing backwards into:
 - A. Right ventricle
 - B. Left ventricle
 - C. Aorta
 - D. Left atrium
4. The main Pacemaker of heart is
 - A. AV Node
 - B. SA Node
 - C. Purkinje fibres
 - D. Bundle of His
5. The endocrine component in kidney that secretes renin and erythropoietin is the:
 - A. Bowman's capsule
 - B. Adrenal gland
 - C. Juxta glomerular apparatus
 - D. Vasa recta
6. Intercalated discs are characteristic of:
 - A. Smooth muscle
 - B. Cardiac muscle
 - C. Skeletal muscle
 - D. Muscularis mucosa
7. The peritoneal fold that stabilizes and supports the small intestine is the:
 - A. Serosa
 - B. Lesser omentum
 - C. Mesentery
 - D. Parietal peritoneum
8. Intrinsic factor is secreted by cells in the stomach wall called:
 - A. Parietal cell
 - B. Chief cells
 - C. Acinar cells
 - D. G cells
9. Largest lymphoid organ of the body is
 - A. Lymph node
 - B. Spleen
 - C. Palatine tonsil
 - D. Appendix
10. Parathyroid hormone secretions regulate:
 - A. Blood calcium
 - B. Blood glucose
 - C. Protein synthesis
 - D. Fat metabolism
11. The primary function of the lens of the eyes is to:
 - A. Absorb light passing through the retina
 - B. Interact with the photoreceptors of the retina
 - C. Focus the visual image on the retina
 - D. Secrete aqueous humour
12. The auditory ossicles of the middle ear include the:
 - A. Sacculus, utriculus, ampulla
 - B. Vestibule, cochlea, organ of corti
 - C. Malleus, stapes, incus
 - D. Otoliths, maculae, otoconia
13. The bones of the pectoral girdle include:
 - A. Clavicle and scapula
 - B. Ilium and ischium
 - C. Humerus and femur
 - D. Ulna and radius
14. The structure piercing the central tendon of the diaphragm is:
 - A. Inferior vena cava
 - B. Thoracic duct
 - C. Aorta
 - D. Oesophagus

15. Failure of descent of testis to its normal position is called:
- Cholecystitis
 - Cryptorchidism
 - Hypogonadism
 - Sterility
16. Structure of RBC membrane is maintained by
- Elastin
 - Collagen
 - Spectrin
 - Laminin
17. The normal sequence of cell cycle is
- G₀-G₁-S-G₂-M
 - G₀-G₁- G₂-M-S
 - G₀-G₁-S- M -G₂
 - G₀- M -G₁-S-G₂
18. End plate potential is characterized by
- All or none law
 - Propagation
 - Depolarization
 - Hyperpolarization
19. Rheobase is an indicator of
- Specificity of impulse transmission
 - Magnitude of current
 - Rate of discharge
 - Velocity of nerve conduction
20. All are required in heme synthesis except
- Ferrous iron
 - Glycine
 - Succinyl CoA
 - Lead
21. Helper and Cytotoxic cells are
- B cells
 - T cells
 - Monocytes
 - Macrophages
22. Erythropoiesis is promoted by
- Erythropoietin
 - Interleukin -5
 - Colony stimulating factor
 - Interleukin-4
23. The normal Arterial Carbon dioxide level in human blood is:
- 25 mmHg
 - 40 mmHg
 - 50 mmHg
 - 60 mmHg
24. Diffusion capacity for carbon dioxide compared to oxygen is
- 20 time more
 - 10 times more
 - 5 times more
 - 2 times more
25. Blood pressure is defined as the product of
- Systolic pressure and pulse
 - Cardiac output and peripheral resistance
 - Pulse pressure and pulse rate
 - Diastolic pressure and pulse rate
26. Nitric oxide is released by
- Smooth muscle cells
 - Mesenchymal cells
 - Pericytes
 - Endothelial cells
27. Digestion of dietary fiber by colonic bacteria produces
- Free radicals
 - Sucrose
 - Butyrate
 - Glycerol
28. Ingestion of carbohydrate free diet (diet not containing carbohydrates) causes
- Diabetes mellitus
 - Ketosis
 - Obesity
 - No effect
29. Most powerful vasopressor is
- Renin
 - Angiotensin II
 - Aldosterone
 - Cortisol

30. Inhibitory neurotransmitter in CNS neurons is
- Glutamate
 - Aspartate
 - GABA
 - Taurine
31. An example of an exothermic reaction is:
- Electrolysis of water
 - Burning of natural gas
 - Photosynthesis in plants
 - Decomposition of calcium carbonate
32. The chemical formula of the solution used for white-washing (Chooona) is:
- CaO
 - CaHCO₃
 - CaSO₄
 - CaCO₃
33. The chemical process when oxygen is removed is called:
- Oxidation
 - Corrosion
 - Combustion
 - Reduction
34. The empirical formula and molecular mass of a compound are CH₂O and 180g respectively. What will be the molecular formula of the compound?
- C₉H₁₈O₉
 - CH₂O
 - C₆H₁₂O₆
 - C₂H₄O₂
35. Which of the following statements about the electron is incorrect?
- It is a negatively charged particle.
 - The mass of electron is equal to the mass of neutron.
 - It is a basic constituent of all atoms.
 - It is a constituent of cathode rays
36. The elements in which electrons are progressively filled in 4f- orbital are called
- Actinoids
 - Transition elements
 - Lanthanoids
 - Halogens
37. Which of the following angle corresponds to sp² hybridisation?
- 90°
 - 120°
 - 180°
 - 109°
38. Which of the following properties of water can be used to explain the spherical shape of rain droplets?
- Viscosity
 - Surface tension
 - Critical phenomena
 - Pressure
39. Acidity of BF₃ can be explained on the basis of which of the following concepts?
- Arrhenius concept
 - Bronsted Lowry concept
 - Lewis concept
 - Bronsted Lowry AND Lewis concept
40. The radioactive isotope of hydrogen is
- Protium
 - Deuterium
 - Tritium
 - Hydronium
41. Alkali metals react with water vigorously to form hydroxides and dihydrogen. Which of the following alkali metals reacts with water least vigorously?
- Li
 - Na
 - K
 - Cs
42. By adding gypsum to cement
- Setting time of cement becomes less
 - Setting time of cement increases
 - Colour of cement becomes light
 - Lustrous surface is obtained
43. Quartz is extensively used as a piezoelectric material, it contains
- Pb
 - Si
 - Ti
 - Sn

44. Isomerism is not possible in the following functional group
- Alcohols
 - Aldehydes
 - Alkyl halides
 - Cyanides
45. If sewage containing organic waste is disposed in water bodies, the fishes in such a polluted water die because of
- Large number of mosquitoes
 - Increase in the amount of dissolved oxygen
 - Decrease in the amount of dissolved oxygen
 - Clogging of gills by organic waste
46. In which one of the following, both autogamy and geitonogamy are prevented?
- Castor
 - Maize
 - Wheat
 - Papaya
47. Which juice secreted by the organs in the alimentary canal plays an important role in the digestion of fats?
- Salivary amylase
 - Hydrochloric acid
 - Lipase
 - Pepsin
48. The thick wall of a fruit developed from the ripened ovary is called
- Parenchyma
 - Hilum
 - Pleurae
 - Pericarp
49. Which of the following is obtained from genetic engineering?
- Haemoglobin
 - Glucose
 - Golden rice
 - None of these
50. Gynecomastia is common feature seen in
- Down's syndrome
 - Turner's syndrome
 - Phenylketonuria
 - Klinefelter's syndrome
51. DNA fingerprinting technique was discovered by
- Wilmot
 - Jeffrey's
 - Einthoven
 - Kary Mullis
52. Which of the following oxidation require FAD as electron acceptor?
- Alpha-ketoglutarate \rightarrow Succinyl Co-A
 - Succinic acid \rightarrow Fumaric acid
 - Succinyl Co-A \rightarrow Succinic Acid
 - Fumaric acid \rightarrow Malic acid
53. Photosynthetically Active Region (PAR) have the electromagnetic region of
- 100-200 nm
 - 200-400 nm
 - 400-700 nm
 - 800-900 nm
54. Baker's yeast is
- Propionibacterium shermanii
 - Saccharomyces cerevisiae
 - Trichoderma polysporum
 - Lactobacillus
55. The role of DNA ligase in the construction of a recombinant DNA molecule is
- Formation of phosphodiester bond between two DNA fragments
 - Formation of hydrogen bonds between sticky ends of DNA fragments
 - Ligation of all purine and pyrimidine bases
 - None of the above
56. Which one of these microbes is used in the commercial production of butyric acid?
- Clostridium butylicum
 - Streptococcus butylicum
 - Trichoderma polysporum
 - Saccharomyces cerevisiae

57. Infective stage of Plasmodium for humans is
- Merozoites
 - Ookinetes
 - Sporozoites
 - None of these
58. Mutational theory of evolution was given by
- Charles Darwin
 - Robert Brown
 - Oparin
 - Hugo de Vries
59. Negatively regulatory proteins are called
- Repressor
 - Catalytic proteins
 - Accessory proteins
 - All of the above
60. Phenylketonuria disease is inherited as a/an
- Autosomal dominant
 - Autosomal recessive
 - Sex-linked recessive
 - Sex-linked dominant
61. Difference between ZIFT and IUT lies in the
- Methodology of fertilisation
 - Nature of the sperms that fuse ova
 - Nature of the cells transferred
 - Number of the cells transferred
62. Emphysema is a chronic disorder which is caused due to damage to the
- Trachea
 - Bronchi
 - Alveoli
 - Pulmonary vessels
63. Wilson's disease is associated with the abnormal metabolism of
- Iron
 - Potassium
 - Iodine
 - Copper
64. Which phyto-hormone was first isolated from human urine?
- Auxin
 - ABA
 - Ethylene
 - Gibberellic acid
65. During which stage of spermatogenesis the chromosomes are associated with tetrads:
- Pachytene
 - Leptotene
 - Zygotene
 - Diplotene
66. Muscle relaxant of choice for rapid sequence intubation is
- Vecuronium
 - Atracurium
 - Cisatracurium
 - Rocuronium
67. The term Bier block is used for
- Subarachnoid block
 - IV regional block
 - Local anaesthesia
 - Epidural block
68. Most common complication of spinal anaesthesia is
- Bradycardia
 - Hypotension
 - Vomiting
 - Meningitis
69. Which of the following is not a definitive airway?
- Tracheostomy
 - Orotracheal tube
 - Nasotracheal tube
 - Laryngeal mask airway
70. Which of the following is not an indication for endotracheal intubation?
- Maintenance of a patent airway
 - To provide positive pressure ventilation
 - Pulmonary toilet
 - Pneumothorax

71. Which of the following clotting factor is NOT synthesized by the liver?
- VII
 - VIII
 - IX
 - X
72. Which oxygen delivery device will provide higher percentages (%) of oxygen?
- Oxygen by nasal cannula
 - Ventimask
 - Partial rebreathing mask
 - Non rebreathing mask
73. Which of the following is not an amide linked local anaesthetic?
- Lignocaine
 - Procaine
 - Bupivacaine
 - Dibucaine
74. The term tachypnoea refers to
- Cessation of breathing
 - Cheyne–Stokes breathing
 - An increase in respiratory rate
 - A reduction in respiratory rate
75. Pneumocephalus occurs when
- Air enters the cranium
 - There is raised intracranial pressure
 - The head is tilted below heart level
 - The patient has pneumonia
76. An aneurysm is
- A bulging in the pleural cavity
 - A bulging in the weak wall of an artery
 - A bulging in the intestine
 - A bulging in the nerves
77. The circle of Willis is located
- In the lumbar spine
 - In the dorsal spine
 - In the orbital fossa
 - At the base of the brain
78. The term hemiparesis refers to
- Weakness of the eyelid
 - Inability of the patient to use their sense of smell
 - Weakness on one side of the body
 - Weakness below the level of the chin
79. The appendix is located in
- The left lumbar region
 - The left iliac fossa
 - The right lumbar region
 - The right iliac fossa
80. A hemicolectomy results in the
- Removal of all of the colon
 - Removal of half of the colon
 - Formation of a colostomy
 - Formation of an ileostomy
81. The laryngeal mask airway is used for securing the airway of a patient in all of the following conditions EXCEPT:
- In a difficult intubation
 - In cardiopulmonary resuscitation
 - In a child undergoing an elective/routine eye surgery
 - In a patient with a large tumour in the oral cavity
82. The following are used for treatment of postoperative nausea and vomiting following squint surgery in children EXCEPT:
- Ketamine
 - Ondansetron
 - Propofol
 - Dexamethasone
83. All of the following are the disadvantages of anaesthetic ether, EXCEPT:
- Induction is slow
 - Irritant nature of ether increases salivary and bronchial secretions
 - Cautery cannot be used
 - Affects blood pressure and is liable to produce arrhythmias

84. Which one of the following anaesthetic agents causes a rise in the Intracranial pressure?
- Sevoflurane
 - Thiopentone sodium
 - Lignocaine
 - Propofol
85. Which one of the following is the fastest acting inhalational agent?
- Halothane
 - Isoflurane
 - Ether
 - Sevoflurane
86. Which of the following agents is used for the treatment of postoperative shivering?
- Thiopentone
 - Suxamethonium
 - Atropine
 - Pethidine
87. Which of the following intravenous induction agents is the most suitable for day care surgery?
- Morphine
 - Ketamine
 - Propofol
 - Diazepam
88. Which of the following anaesthetic agents does not trigger malignant hyperthermia?
- Halothane
 - Isoflurane
 - Suxamethonium
 - Thiopentone
89. Which of the following statements is NOT true about etomidate?
- It is an intravenous anaesthetic
 - It precipitates coronary insufficiency
 - It inhibits cortisol synthesis
 - It causes pain at site of injection
90. Which one of the following agents sensitizes the myocardium to catecholamines?
- Isoflurane
 - Ether
 - Halothane
 - Propofol
91. Which of the following inhalational agents is the induction agent of choice in children?
- Methoxyflurane
 - Sevoflurane
 - Desflurane
 - Isoflurane
92. Which one of the following local anaesthetics belongs to the ester group?
- Procaine
 - Bupivacaine
 - Lignocaine
 - Mepivacaine
93. Which one of the following anti-bacterials should not be used with d-tubocurarine?
- Norfloxacin
 - Streptomycin
 - Doxycycline
 - Cefotaxime
94. Which of the following is the muscle relaxant of choice in renal failure?
- Rapacurium
 - Pancuronium
 - Atracurium
 - Rocuronium
95. Arthroscopy:
- Is considered major surgery
 - Is considered minimally invasive
 - Causes arthritis
 - Is risk free
96. Heberden's nodes are present in
- Rheumatoid arthritis
 - Osteoarthritis
 - Gout
 - Rheumatic fever
97. One of the major challenges of amputation is
- Regaining balance
 - Risk of osteomyelitis
 - Susceptibility to trauma
 - Overcoming stigma

98. Cauda equina syndrome
- A. Occurs due to prolonged hypotension
 - B. Is a Gynaecologic emergency
 - C. Occurs in severe hypertension
 - D. Is a surgical emergency
99. Oxytocin is a hormone that
- A. Stimulates spermatogenesis
 - B. Inhibits thyroid function
 - C. Stimulates the uterus
 - D. Is used for bronchial asthma
100. Excessive production of thyroid hormone is associated with:
- A. Slow mentation
 - B. Constipation
 - C. Weight gain
 - D. Exophthalmos

Answers to T

Q No	Key	Q No	Key	Q No	Key	Q No	Key	Q No	Key
1	B	21	B	41	A	61	D	81	D
2	B	22	A	42	B	62	C	82	A
3	B	23	B	43	B	63	D	83	D
4	B	24	A	44	C	64	A	84	A
5	C	25	B	45	C	65	A	85	D
6	B	26	D	46	D	66	D	86	D
7	C	27	C	47	C	67	B	87	C
8	A	28	B	48	D	68	B	88	D
9	B	29	B	49	C	69	D	89	B
10	A	30	C	50	D	70	D	90	C
11	C	31	B	51	B	71	B	91	B
12	C	32	A	52	B	72	D	92	A
13	A	33	D	53	C	73	B	93	B
14	A	34	C	54	B	74	C	94	C
15	B	35	B	55	A	75	A	95	B
16	C	36	C	56	A	76	B	96	B
17	A	37	B	57	C	77	D	97	D
18	A	38	B	58	D	78	C	98	D
19	B	39	C	59	A	79	D	99	C
20	D	40	C	60	B	80	B	100	D