

116/2017

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

Total Number of Questions : 100

Time : 75 Minutes

Maximum Marks : 100

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with question booklet alpha code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the question booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

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1. Number of official languages included in the VIIIth schedule of the Indian Constitution :
(A) 20 (B) 22 (C) 21 (D) 18
2. Who raised the slogan 'No caste, No religion, No God for man' ?
(A) Sree Narayana Guru (B) Chattampi Swamikal
(C) Sahodaran Ayyappan (D) Ayyankali
3. Which of the following publication was known as the 'bible of the socially depressed classes' ?
(A) Al-Ameen (B) Vivekodayam
(C) Kesari (D) Mithavadi
4. The first Christian missionary group arrived in Kerala :
(A) Jesuits (B) CMS
(C) Salvation Army (D) Basel Evangelical Mission
5. The oldest existing Malayalam newspaper :
(A) Mathrubhumi (B) Malayala Manorama
(C) Kerala Kaumudi (D) Deepika
6. The ruler who made Temple entry proclamation in Travancore in 1936 :
(A) Sri Moolam Thirunal (B) Aayilyam Thirunal
(C) Sree Chithira Thirunal (D) Sethu Lakshmi Bhai
7. The leader of Guruvayur Satyagraha was :
(A) K. Kelappan (B) T.K. Madhavan
(C) C. Kesavan (D) Mannath Padmanabhan
8. Which of the following Country decided to quit the European Union in the last year ?
(A) Germany (B) France (C) Italy (D) England
9. The winner of Australian Open Tennis men's singles title - 2017 :
(A) Rafael Nadal (B) Roger Federer
(C) Andy Murray (D) Novak Djokovic
10. Which woman freedom fighter was described by Gandhiji as 'The Jhansi Rani of Travancore, ?
(A) Rosamma Punnose (B) Akkamma Cheriyan
(C) Annie Mascarene (D) A.V. Kuttimalu Amma

20. When a double convex lens with refractive index 1.5, is immersed in a solution of Carbon disulphide with refractive index 1.62, the focal length of this lens becomes ?
(A) more positive (B) negative
(C) zero (D) infinite
21. Albumin, Globulin and Fibrinogen are :
(A) Intestinal enzymes (B) Plasma Proteins
(C) Carbohydrates (D) Pituitary hormones
22. Select the parts of nephron from the following :
(A) Henle's loop and Bowman's capsule
(B) Axon and Dendron
(C) Actin filament and myosin filament
(D) Collagen and Elastin
23. "Crossing over" during meiosis leads to :
(A) Gene migration (B) Translation
(C) Transcription (D) Gene recombination
24. Find out the character of mammals from the following :
(A) Poikilo thermous (B) Pneumatic bone
(C) Hairy Exoskeleton (D) Water vascular system
25. Which of the following is a Protozoan disease ?
(A) Typhoid fever (B) Pneumonia
(C) Malaria (D) Common Cold
26. Hormones show "Antagonistic effects" are :
(A) Adrenalin and Nor adrenalin (B) Insulin and Glucagon
(C) Calcitonin and Thyroxin (D) Oxytocin and Vasopressin
27. Who proposed the double helical structural model to DNA ?
(A) Sutton and Boveri (B) Hershey and Chase
(C) T.H. Morgan (D) James Watson and Francis Crick
28. Azotobacter and Azospirillum are :
(A) Bio fertilizers (B) Bio control agents
(C) Source of narcotic drugs (D) Plant Pathogens

29. Select the method of Exitu Conservation of Biodiversity from the following :
- (A) Sacred groves (B) National park
(C) Zoological park (D) Biosphere reserve
30. Peptide bond is found in :
- (A) Protein (B) Glycogen (C) Starch (D) Nucleic acids
31. Number of electrons present in 1 mol H_2O is :
- (A) 6.022×10^{23} (B) $18 \times 6.022 \times 10^{23}$
(C) 6.022×10^{24} (D) 18
32. pH of .1 Molar NaOH solution assuming complete ionization is :
- (A) 1 (B) 13 (C) 14 (D) None
33. Duma's method is used for estimation of :
- (A) Nitrogen (B) Sulphur (C) Halogen (D) Phosphorous
34. Which of the following is an intensive property ?
- (A) Mass (B) Volume (C) Density (D) Heat Capacity
35. The rate constant of a reaction is $2.5 \times 10^{-4} S^{-1}$. The order of the reaction is :
- (A) 1 (B) 0 (C) 2 (D) 3
36. Number of electrons possible in a quantum level with $l=2$:
- (A) 2 (B) 4 (C) 8 (D) 10
37. Which of the following is a tribasic acid ?
- (A) H_3PO_4 (B) H_3PO_3 (C) H_3PO_2 (D) All
38. Shape of XeF_2 molecule is :
- (A) See Saw (B) Linear (C) Square planar (D) Octahedral
39. Which of the following compounds will not undergo Iodoform test ?
- (A) Ethanol (B) Ethanal (C) Propanone (D) Propanal
40. Which of the following is not a nucleophile ?
- (A) NH_3 (B) H_2O (C) BF_3 (D) OH^-
41. The three steps of urine formation are :
- (A) Glomerular filtration, diffusion, ultrafiltration
(B) Filtration, reabsorption, ultrafiltration
(C) Filtration, reabsorption, secretion
(D) Clearance, glomerular filtration, ultrafiltration

42. What is the normal adult glomerular filtration rate ?
(A) 99 ml/hr (B) 2000 ml/day (C) 80 ml/hr (D) 125 ml/min
43. All of the following are functions of the kidney EXCEPT :
(A) Regulation of acid base balance
(B) Maintenance of fluid balance
(C) Elimination of metabolic waste
(D) Release of aldosterone
44. Diffusion is the movement of :
(A) Solute from an area of high concentration to an area of low concentration
(B) Solute from an area of low concentration to an area of high concentration
(C) Solvent from an area of low concentration to an area of high concentration
(D) Solvent from an area of high concentration to an area of low concentration
45. An elevated serum potassium is when the level is above :
(A) 2.5 mEq/L (B) 4.0 mEq/L (C) 2.0 mEq/L (D) 5.5 mEq/L
46. Acidosis is defined when pH falls below :
(A) Less than 7.35 (B) Less than 7.45
(C) Less than 7.55 (D) Less than 8.0
47. Primary cause of anemia in CKD is :
(A) Erythropoetin deficiency (B) Iron deficiency
(C) Blood loss (D) Folate deficiency
48. The list below indicates reasons for malnutrition in chronic renal failure. Of these which one is considered to be the major cause of malnutrition ?
(A) Metabolic derangements
(B) Dialysis associated catabolism
(C) Uremic toxins
(D) Decreased nutrient intake
49. In hemodialysis the removal of urea from the patient is Primarily due to the existence of :
(A) Osmotic pressure (B) Hydrostatic pressure
(C) Electrical gradient (D) Concentration gradient
50. The optimum value for the dialysis solution flow rate is _____ times the blood flow rate.
(A) 1.0 - 1.5 (B) 2.0 - 2.5 (C) 1.5 - 2.0 (D) 2.5 - 3.0

58. What are the factors to consider when establishing a dry weight for the patient ?
- (A) Blood pressure
 - (B) Patient well being
 - (C) Evidence of dehydration or overload
 - (D) All of the above
59. The process by which a large volume of fluid is removed at a rapid rate, with little or no solute removal except by convection is called :
- (A) Osmosis
 - (B) Hemodialysis
 - (C) Ultrafiltration
 - (D) Isolated or pure ultrafiltration
60. The primary purpose of the proportional pump in a dialysate delivery system is to :
- (A) Prepare the dialysate in proper pH
 - (B) Prepare the dialysate in proper temperature
 - (C) Prepare the dialysate in proper water to concentrate ratio
 - (D) Deliver the concentrate at the proper rate
61. Why is the hemodialysis patient discouraged from eating heavy meals before or during dialysis ?
- (A) May cause hyperkalemia post dialysis
 - (B) Can contribute to vomiting during dialysis
 - (C) May contribute to hypotension
 - (D) All of the above
62. Urea clearance is enhanced by :
- (A) High blood flow rate and high dialysate flow rate
 - (B) Co-current flow
 - (C) A small dialyzer
 - (D) Osmotic pressure gradient
63. What is the national standard for hemodialysis prescription (weekly KT/V) to minimize morbidity/mortality rates ?
- (A) > 0.8
 - (B) > 0.4
 - (C) > 1.0
 - (D) > 1.2
64. The regular use of a high sodium dialysate bath may predispose the patient to :
- (A) Fluid overload
 - (B) Hypertension
 - (C) Thirst
 - (D) All of the above

65. Kolff developed the :
- (A) First disposable dialyzer (B) First plate dialyzer
 (C) Scribner shunt (D) Mahurker catheter
66. The capability of a dialyzer to remove fluid expressed as ml/hr/mmHg is called :
- (A) UF- coefficient (B) Clearance
 (C) Surface area (D) Priming volume
67. Pre-pump arterial pressure reading is reflective of :
- (A) The pressure required to pump the blood through the circuit
 (B) The resistance of the access to the blood flow out of the access device
 (C) The pressure within the dialyzer
 (D) None of the above
68. What symptoms might be manifested in the patient experiencing air embolism ?
- (A) Cyanosis, hypotension, burning in the chest
 (B) Chest pain, Shortness of Breath, confusion
 (C) Confusion, cherry red blood
 (D) Hypotension, double vision
69. The appearance of cherry red blood, drop in Hct, hypotension, and chest pain are signs of :
- (A) Residual chemical reaction (B) First use syndrome
 (C) Disequilibrium syndrome (D) Hemolysis
70. What determines the surface area of a hollow fiber dialyzer ?
- (A) Number of fibers (B) Inner diameter
 (C) Length (D) All of the above
71. The most important predisposing factors for muscle cramping during hemodialysis are all EXCEPT :
- (A) Hypovolemia (B) Hypotension
 (C) High sodium dialysis solution (D) High UF rate

79. What is the purpose of regional heparinization ?
- (A) To systematically anticoagulate the patient
 - (B) To give only enough Heparin to keep the dialyzer clear
 - (C) Low dose Heparin
 - (D) To anticoagulate the blood in extracorporeal unit
80. How much protamine sulfate should be given to neutralize Heparin ?
- (A) 1-1.5 mg protamine/100 u Heparin
 - (B) 2 mg protamine/1000 u Heparin
 - (C) 1 u protamine/1 u Heparin
 - (D) Depends on the patient weight
81. Heparinization during hemodialysis can be best monitored by :
- (A) Bleeding
 - (B) Clotting
 - (C) Whole blood activated clotting time
 - (D) Clotting in dialysis circuit
82. What preventive measures can be practiced in dialysis units to control the incidence of Hepatitis B transmission ?
- (A) Regular screening of patients and staff
 - (B) Designated area for patients with HbsAg positivity
 - (C) Offering Hepatitis B vaccine to all patients and staff
 - (D) All of the above
83. During PD ultrafiltration is accomplished by the utilization of :
- (A) Hypertonic dialysate
 - (B) Hypotonic dialysate
 - (C) Isotonic dialysate
 - (D) None of the above
84. Complications of Heparin therapy include all EXCEPT :
- (A) Prolonged vascular site bleeding
 - (B) Thrombocytopenia
 - (C) Osteoporosis
 - (D) Chest pain
85. Low Conductivity may be caused by :
- (A) Inadequate water flow
 - (B) Empty concentrate container
 - (C) Improperly prepared or incorrect concentrate
 - (D) All of the above

86. Presence of this ion is responsible for hardness of water :
 (A) Fluoride (B) Copper (C) Nitrates (D) Calcium
87. The LAL (Limulus Amebocyte Lysate) assay measures :
 (A) Organic impurities (B) Inorganic impurities
 (C) Bacterial count (D) Endotoxins
88. Which of the following methods are used to test the dialyzer to assure its efficacy ?
 (A) Total cell volume (B) Leak test
 (C) KUF test (D) All of the above
89. Which of the following membranes used in dialysis are **not** synthetic ?
 (A) Polysulfone (B) Polyethersulfone
 (C) Cellulose (D) Polyacrylonitrile (PAN)
90. Rule of 6 in assessing AV fistula maturation are all EXCEPT :
 (A) 6 mm in diameter (B) less than 6 mm below the skin
 (C) less than 6 cm in length (D) blood flow of at least 600 ml/min
91. Dialysis solution calcium levels normally range from :
 (A) 1.25 to 1.5 mEq/L (B) 2.5 to 3.0 mEq/L
 (C) 3.5 to 4.5 mEq/L (D) None of the above
92. Peritonitis in peritoneal dialysis patients is defined by :
 (A) Presence of cloudy PD effluent
 (B) 100 white blood cells/mm³
 (C) At least 50% polymorphonuclear cells
 (D) All of the above
93. Which among the following statements are false regarding ultrafiltration failure ?
 (A) Net UF is less than 400ml after a 4 hour dwell of 2.25 dextrose dialysis solution
 (B) Net UF is less than 400ml after a 4 hour dwell of 4.25 dextrose dialysis solution
 (C) Net UF is less than 200ml after a 4 hour dwell of 2.25 dextrose dialysis solution
 (D) Net UF is less than 200ml after a 4 hour dwell of 4.25 dextrose dialysis solution
94. Benefits of regional citrate anticoagulation are all EXCEPT :
 (A) Reduced neutrophil and compliment activation
 (B) Reduced bleeding risk
 (C) Better efficacy on circuit patency
 (D) Hypocalcemia

95. Potential advantages of slow continuous therapies are all EXCEPT :
- (A) Highly effective in removing fluid
 - (B) Deleterious effect on intracranial pressure
 - (C) Hemodynamically well tolerated
 - (D) Better control of azotemia
96. Dialyzer efficiency is best represented by :
- (A) K_oA
 - (B) Ability to remove very large molecules
 - (C) High water permeability
 - (D) All of the above
97. Hemodialysis is a therapy of choice for the following drug toxicity except :
- (A) Lithium
 - (B) Salicylate
 - (C) Ethylene glycol
 - (D) Amitriptyline
98. The ideal blood flow rate for membrane plasma separation :
- (A) 50 - 100 ml/min
 - (B) 100 - 150 ml/min
 - (C) 150 - 200 ml/min
 - (D) 200 - 250 ml/min
99. Complications during plasmapheresis are all EXCEPT :
- (A) Hemorrhage
 - (B) Hypocalcemia
 - (C) Hypertension
 - (D) Thrombocytopenia
100. Type A dialyzer reaction is due to all of the following EXCEPT :
- (A) Reaction to ethylene oxide
 - (B) Reuse syndrome
 - (C) Heparin
 - (D) Compliment activation

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SPACE FOR ROUGH WORK

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