

MIZORAM PUBLIC SERVICE COMMISSION

TECHNICAL COMPETITIVE EXAMINATIONS FOR RECRUITMENT TO LABORATORY TECHNICIAN (CONTRACT) UNDER HEALTH & FAMILY WELFARE DEPARTMENT, FEBRUARY, 2017

PAPER - II

Time Allowed : 2 hour

Full Marks : 150

*All questions carry equal marks of 2 each.
(Attempt all questions.)*

1. Malignant cells have the following features, except
 - (a) N:C ratio reverse
 - (b) Hyperchromatism
 - (c) Immature nuclei
 - (d) Enlarge cytoplasm
2. Metaplasia means
 - (a) Change of one type of cells to another type of cells
 - (b) Increased cells numbers and size
 - (c) Increased cells size without increase in numbers
 - (d) None of these
3. Metastasis of malignant tumours is highest through
 - (a) Hematogenous route
 - (b) Lymphatic route
 - (c) Transcaelomic spread
 - (d) None of these
4. The following are the normal constituents of urine, except
 - (a) Sodium
 - (b) Potassium
 - (c) Calcium
 - (d) Phosphates
5. The normal PH of urine is
 - (a) 5 to 7.5
 - (b) 6 to 8
 - (c) 7.5 to 9
 - (d) None of these
6. Specific gravity of urine is increased in
 - (a) Proteinuria
 - (b) Polyuria
 - (c) Increased intake of water
 - (d) All of these
7. Normal volume of CSF is
 - (a) 100 – 200 ml
 - (b) 90 – 150 ml
 - (c) 300 – 450ml
 - (d) None of these
8. The normal range of glucose in CSF is
 - (a) 50 – 80 mg %
 - (b) 60 – 90 gm %
 - (c) 80 – 110 mg %
 - (d) None of these

9. Hydrochloric acid in stomach is secreted by
- (a) Oxyntic cells
 - (b) Parietal cells
 - (c) Goblet cells
 - (d) All of these
10. Normally the odour of stool should be
- (a) Aromatic
 - (b) Acidic
 - (c) Sweet
 - (d) Ammoniacal
11. The normal semen volume average ranges from
- (a) 1.5 to 5.0 ml
 - (b) 2.5 to 6.1ml
 - (c) 1.0 to 3.0ml
 - (d) None of these
12. Quality control in laboratory is important because
- (a) We need to check our result
 - (b) We can assess other laboratory
 - (c) We can try to improve our defect
 - (d) All of these
13. The following disadvantage of EDTA in excess is true, except
- (a) PCV is significantly reduced
 - (b) MCHC proportionately increased
 - (c) Platelets is proportionately preserved better
 - (d) Cellular morphology is preserved better
14. Total leucocytes count is falsely high in the following condition, except-
- (a) Blood taken from the area where there was haemoconcentration
 - (b) Diluting fluid taken in excess of the requisite mark
 - (c) Improper mixing
 - (d) Uneven distribution in the counting chamber
15. In preparation of Giemsa's stain, Acetone free Methyl alcohol is mixed up (25.0ml) with –
- (a) 0.3gm Giemsa powder
 - (b) 0.3gm Giemsa powder
 - (c) 0.03 Giemsa powder
 - (d) None of these
16. The normal size of lymphoblast is
- (a) 15 – 20 micron
 - (b) 16 – 22 micron
 - (c) 20 – 30 micron
 - (d) 10 – 20 micron
17. In Aplastic Anaemia the following are true, except
- (a) Leukopaenia
 - (b) Thrombocytopaenia
 - (c) Decreased haemoglobin
 - (d) Serum iron increased
18. Positive Tourniquet's Test is found in
- (a) Reduced capillary resistance
 - (b) Increased capillary resistance
 - (c) Scurvy
 - (d) All of these
19. Bleeding time is increase in all of them, except
- (a) Leukaemia
 - (b) DIC diseases
 - (c) Aplastic Anaemic
 - (d) Multiple myeloma

20. Prothrombin Time measures the following clotting factor, except
- (a) Factor VIIa
 - (b) Factor Xa
 - (c) Factor Va
 - (d) Fibrin
21. Clotting factor IX is also called
- (a) Stuart factor
 - (b) Christmas factor
 - (c) Plasma thromboplastin
 - (d) All of these
22. Haemophilia 'A' is due to deficiency of or disorder of –
- (a) Factor VII disorder
 - (b) Factor X disorder
 - (c) Factor VIII disorder
 - (d) None of these
23. FAB classification designates a proportion of blast cells in Acute Leukaemia should be more than –
- (a) 40%
 - (b) 30%
 - (c) 25%
 - (d) 35%
24. Plasma cells are derived from
- (a) Platelets
 - (b) Lymphocytes
 - (c) Monocytes
 - (d) Red blood cells
25. These are all required for the synthesis of haemoglobin, except
- (a) Amino Acid
 - (b) Iron
 - (c) Calcium
 - (d) Copper
26. Which of the blood cell contains histamine serotonin and heparin
- (a) Neutrophils
 - (b) Basophils
 - (c) Lymphocytes
 - (d) Monocytes
27. Major constituent protein of cytoskeleton of red cell is
- (a) Ankyrin
 - (b) Glycophorin
 - (c) Spectrin
 - (d) Collagen
28. In normal adult total iron binding capacity is about
- (a) 15 – 300 ug/l
 - (b) 190 – 300 mg/l
 - (c) 27 – 38 mg/l
 - (d) 270 – 380 ug/l
29. Which is the most common deficiency diseases in the world
- (a) Goitre
 - (b) Ricketsiae
 - (c) Fe deficiency
 - (d) Osteoporosis
30. Platelets plug formation is initiated when platelets come into contact with
- (a) Undamaged endothelial cells
 - (b) Fibrinogen
 - (c) Collagen fibres in the connective tissue beneath the endothelium
 - (d) Anti thrombin

31. In DIC the following tests are prolonged, except
- (a) Prothrombin time
 - (b) Bleeding time
 - (c) APTT
 - (d) PCV
32. Usually, with 50ml of blood preservative the amount of blood withdrawn in the blood bank bag is
- (a) 350ml
 - (b) 300ml
 - (c) 400ml
 - (d) 250ml
33. The total volume of blood in human body ranges from
- (a) 5.5 to 6 litres
 - (b) 6 to 7 litres
 - (c) 4 – 5 litres
 - (d) None of these
34. The blood group antigens mainly involved in serology are, except
- (a) IgG
 - (b) IgM
 - (c) IgA
 - (d) IgD
35. Blood group antigen antibody re-actions occurs in blood group serology are, except
- (a) Agglutination
 - (b) Precipitation
 - (c) Haemolysis
 - (d) Neutralization
36. In Indirect Antiglobulin Test (IAT), the following are tested, except
- (a) Diagnosis of haemolytic diseases of new born (HDN)
 - (b) Compatibility testing
 - (c) Identification of unexpected antibodies
 - (d) All of these
37. Adverse blood donors reactions includes the following, except
- (a) Hematomas
 - (b) Difficulty in blood flow
 - (c) Convulsion
 - (d) Syncope
38. The main factors involved in fixation are, except
- (a) Hydrogen ion concentration
 - (b) Temperature
 - (c) Penetration
 - (d) Man who handle it
39. The most common fixative in routine pathological laboratory is
- (a) Absolute alcohol
 - (b) 10% formaldehyde
 - (c) 50% alcohol
 - (d) None of these
40. Usually in histopathology laboratory, tissue is cut –
- (a) 1 – 3 micron in thickness
 - (b) 4 – 5 micron in thickness
 - (c) 3 – 5 micron in thickness
 - (d) 5 – 6 micron in thickness
41. The choice of melting point of paraffin wax is
- (a) 40 - 50°C
 - (b) 40 - 70°C
 - (c) 65 –80°C
 - (d) None of these

42. The following are the common methods use in freezing of fresh unfixed tissue in frozen sections, except
- (a) Isopentane cooled by liquid nitrogen (-150°C)
 - (b) Carbon dioxide 'Cardice' (-70°C)
 - (c) Ice box of refrigerator
 - (d) Carbon dioxide gas (-70°C)
43. The mordant used in Alum Haematoxylins are, except
- (a) Alluminium ammonium sulphate
 - (b) Glacial Acetic Acid
 - (c) Ammonium alum
 - (d) Potash alum
44. The staining time of Harris haematoxylins (regressive) is
- (a) 4 – 30 sec
 - (b) 5 – 15 mins
 - (c) 20 – 45 mins
 - (d) 15 – 20 mins
45. Standard H & E stain for paraffin section required staining with 1% eosin for
- (a) 10 mins
 - (b) 5 mins
 - (c) 15 mins
 - (d) Less than 5 mins
46. With Masson Trichrome stain muscle stained?
- (a) Grey colour
 - (b) Blue green colour
 - (c) Blue colour
 - (d) Red colour
47. Best's carmine methods of staining stained glycogen –
- (a) Deep red
 - (b) Magenta
 - (c) Weak red
 - (d) Blue
48. 'Oil red O' stained fat cells –
- (a) Blue
 - (b) Brilliant red
 - (c) Pink to blue
 - (d) Pink
49. For fixation of lipids, the fixative of choice for paraffin section is
- (a) Chromic acid
 - (b) Osmium tetroxide
 - (c) Formol-calcium by addition of 2% calcium acetate
 - (d) Mercuric chloride
50. Methyl green – pyronin method stained
- (a) DNA green blue
 - (b) DNA bluish purple
 - (c) DNA Red
 - (d) None of these
51. Endogenous pigments are, except
- (a) Hemosiderins
 - (b) Bile pigment
 - (c) Calcium
 - (d) Malarial pigments
52. Strong, inorganic acid decalcifiers includes the following, except
- (a) Nitric acid
 - (b) Hydrochloric acid
 - (c) Chromic acid
 - (d) Picric acid

53. Characteristics of Amyloid includes the following, except
- (a) Amorphous
 - (b) Eosinophilic
 - (c) Extracellular
 - (d) Acidic in nature
54. Fungus can be demonstrated with the following stain, except
- (a) Strong H & E stain using Ehrlich's
 - (b) Grocott's methenamine silver stain
 - (c) PAS stain
 - (d) Gram's stain
55. The solutions (chemical) used for clearing in histopathological laboratories are, except
- (a) Chloroform
 - (b) Xylene
 - (c) Toluene
 - (d) Methanol
56. The lining epithelium is non keratinised epithelium. except?
- (a) Oesophagus
 - (b) Epidermis of skin
 - (c) Cornea
 - (d) Mouth
57. Motile cilia of epithelium are found in, except
- (a) Respiratory tract
 - (b) Auditory tube
 - (c) Ventricle of the brain
 - (d) Uterine tube
58. Formation of hyaluronic Acid in the Matrix is helped by
- (a) Plasma cells
 - (b) Fibroblast
 - (c) Retruclar cells
 - (d) Mast cells
59. Malignant cells characteristics are the following, except
- (a) Abnormal mitosis
 - (b) Nuclear chromatin-hyperchromatic
 - (c) Nuclear shape marked variation
 - (d) Cytoplasm is enlarged
60. Lateral vaginal smears is useful for
- (a) For sex chromatin
 - (b) For evaluation of hormonal status
 - (c) Rapid screening
 - (d) None of these
61. Shedding of endometrial cells in vaginal pool indicates
- (a) Endometrial hyperplasia
 - (b) Endometritis
 - (c) Polyps
 - (d) All of these
62. Cytoplasmic changes of the cells in inflammation are, except
- (a) Vacuolation (peri nuclear halo)
 - (b) Phagocytosis
 - (c) Frayed cell border
 - (d) Prominent cell wall
63. Epithelial cells of respiratory tract origin includes the following, except
- (a) Ciliated columnar cells
 - (b) Presence of goblet cells
 - (c) Basal cells are rarely seen
 - (d) Mixed with inflammatory cells
64. Body fluids specimens with low mucus or proteins content should be processed in
- (a) 1 hour
 - (b) 2 hours
 - (c) 2.30 hours
 - (d) None of these
65. The size of the disposable needle most suitable for routine FNAC is
- (a) 21 gauge
 - (b) 25 gauge
 - (c) 20 gauge
 - (d) 26 gauge

66. In the following question, some equations are solved on the basis of a certain system. On the same basis, find out the correct answer for the following question.

If $85+25=50$ and $97+65=93$, then $72+94=?$

- (a) 92 (b) 50
(c) 67 (d) 60

67. In the following number series, how many 9's are which are preceded by 3 but not followed by 4?

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- (a) 3 (b) 2
(c) 1 (d) 4

68. Find out the pair in which the words bear the same relationship to each other as similar to the words of the given pair below:-

Introvert: Extrovert

- (a) Angle : Tangent (b) Extreme : Interim
(c) Against : Favour (d) Action : Law

69. A group of four words are given in the following question; choose the one which is odd.

- (a) Orange (b) Guava
(c) Grapes (d) Apple

70. A man starts for his office in the North direction. He turns to his left, and then to his right and again to his right. In which direction will he be facing?

- (a) South (b) East
(c) West (d) North

71. In the following question, a statement is followed by two courses of action numbered I and II. Assume everything in the statement to be true. Decide which of the two suggested courses of action logically follows for pursuing.

Statement: Majority of the students have failed in one paper in the first semester examination.

Courses of Action:

- I. All those students who failed should be asked to drop out of the course.
II. The faculty teaching the paper should be asked to resign.

- (a) if only I follows (b) If only II follows
(c) If both I and II follows (d) If neither I nor II follows

72. In the following question, two statements are followed by two conclusions numbered I and II. Assume everything in the statements to be true. Decide which of the conclusions, if any, follow from the given statements.

Statements : All good athletes win.

All good athletes eat well.

Conclusions: I. All those who eat well are good athletes

II. All those who win eat well.

- (a) Only I follows
- (b) Only II follows
- (c) Both I and II follows
- (d) Neither I nor II follows

73. The following question has an Assertion (A) and a Reason (R).

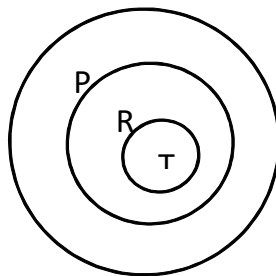
Assertion (A) : Good performance at work causes satisfaction.

Reason (R) : Job satisfaction results in good performance.

Give answer:

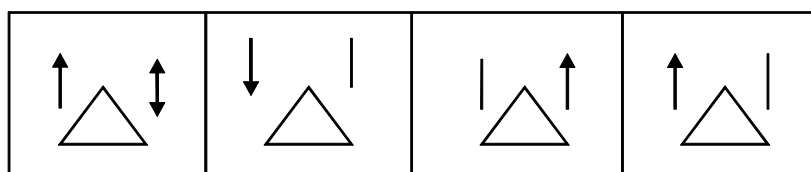
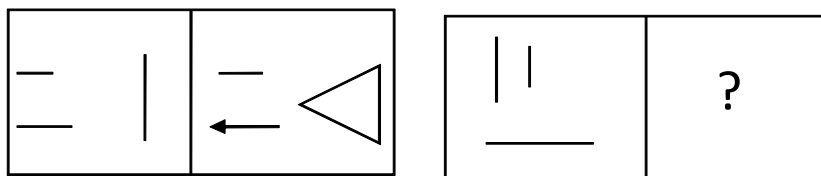
- (a) If both A and R are true but R is not the correct explanation of A.
- (b) If A is true but R is false.
- (c) If A is false but R is true.

74. Which of the following is correct about the given diagram?



- (a) All R are T
- (b) All P are T
- (c) All T are P
- (d) All P are R

75. Which of the following answer should be in place of the question mark?



- a)
- b)
- c)
- d)