DE-2910
First Year B. Sc. (Medical Technology) (Sem. I)
Examination
March/April - 2016
MT - 01 : Fundamentals of Medical Technology

Time : 2 Hours] [Total Marks : 50

सूचना/Instructions:

(1) Fill up strictly the details of sign on your answer book.
Name of the Examination:
F. Y. B. Sc. (Medical Technology) (Sem. I)
Name of the Subject:
MT - 01 : Fundamentals of Medical Technology

(2) There are 50 questions and each question carries one (1) mark and all are compulsory.

(3) Read the question carefully before selecting the correct option.

O.M.R. Sheet वर अंगेली अंगेली सूचनाओ आयेव
O.M.R. Sheet-ली पाणे ध्येय न हे.
Important instructions to fill up O.M.R. Sheet is given on back side of the provided O.M.R. Sheet.

DE-2910_D ] 1
[ Contd...
1 You have 1.10 N HCl solution. How much water would you mix in order to obtain 1 L of 1 N HCl solution?
   (A) 909.09 ml
   (B) 90.91 ml
   (C) 200 ml
   (D) 150 ml

2 Specimen collection, handling, selection of right procedure are parts of:
   (A) Pre-analytical factors
   (B) Analytical factors
   (C) All of these
   (D) Post-analytical factors

3 What is the pH range of the indicator phenolphthalein?
   (A) 10 – 11
   (B) 6.0 – 7.5
   (C) 8.3 – 10.0
   (D) 7.5 – 8.0

4 Which blood component release thromboplastin which helps in coagulation of blood during damage of blood vessel?
   (A) RBC
   (B) Platelets
   (C) Fibrinogen
   (D) WBC

5 Which bacteria is most commonly found in CSF?
   (A) Neisseria meningitides
   (B) Pseudomonas aeruginosa
   (C) Staphylococcus aureus
   (D) Escherichia coli
6. Which preservative is added in urine to test pregnancy?
   (A) Thymol
   (B) Formalin
   (C) None of these
   (D) Toluene

7. Those solution which contains maximum amount of solute dissolved at a given temperature and pressure are called?
   (A) Molar solution
   (B) Standard solution
   (C) Normal solution
   (D) Saturated solution

8. Find the mode from given data:
   28, 24, 14, 44, 14, 16, 32, 14, 43, 60.
   (A) 32
   (B) 14
   (C) 44
   (D) 20

9. If the given sets of data mean, median and mode are equal, which type of distribution is this?
   (A) Asymmetrical
   (B) Symmetrical
   (C) None of these
   (D) Bimodal

10. Which method is used to collect the pericardial fluid?
    (A) Paracentesis
    (B) Thoracentesis
    (C) Lumbar puncture
    (D) Pericardiocentesis
11 Among these which is not an anticoagulant?
   (A) EDTA
   (B) Sodium Citrate
   (C) Phosphate buffer
   (D) Double Oxalate

12 Determine the cusum values from the given data set: 88, 85, 90, 92, 95.
   (A) +2, +7, +7, +5, 0
   (B) −3, +2, −3, 0, 0
   (C) −3, −2, +3, 0, 4
   (D) +2, +5, 0, −2, −5

13 These are graduated pipettes marked up to the tip:
   (A) Sahli's pipette
   (B) Serological pipettes
   (C) Pasteur pipette
   (D) Mohr pipette

14 SD/mean × 100 is the formula used to calculate:
   (A) Median
   (B) Standard Errors
   (C) Analytical Errors
   (D) Coefficient of variation

15 Which method is used for CSF collection?
   (A) Lumbar puncture
   (B) arterial puncture
   (C) None of these
   (D) venous puncture

16 Systemic errors are due to:
   (A) right procedures
   (B) Both wrong procedures and right procedures
   (C) None of these
   (D) wrong procedures

17 ______ is the value in a group which occurs most frequently.
   (A) Mean
   (B) Range
   (C) Mode
   (D) Median
18 Calculate the median from the given sets of data:
36, 43, 38, 55, 68, 75.
(A) 49  
(B) 63  
(C) 42  
(D) 50

19 _____ is used to remove immersion oil from the slides.
(A) Glacial acetic acid  
(B) Xylene  
(C) Water  
(D) Grease

20 Which preservative is added to preserve Stool cultures for two weeks?
(A) Buffered Glycerol saline  
(B) Toluene  
(C) Alcohol  
(D) Formaldehyde

21 Equivalent weight of an acid or base dissolved and made to a liter of a solution gives:
(A) Saturated solution  
(B) Molar solution  
(C) Normal solution  
(D) Standard solution

22 A combination of Precision and accuracy is:
(A) Statistics  
(B) Specificity  
(C) Sensitivity  
(D) Dependability

23 Which specimen is used for diagnosis of intestinal parasitic infections?
(A) CSF  
(B) Stool  
(C) Synovial fluid  
(D) Pleural fluid

24 Fluid portion of anticoagulated blood is termed as:
(A) Plasma  
(B) Platelets  
(C) RBC and WBC  
(D) Serum
25 Which specimen is recommended for pathogens of lower respiratory tract?
   (A) Saliva
   (B) Cough
   (C) None
   (D) Sputum

26 It is a long cylindrical piece of glassware with calibration marking on it in an ascending order (zero at bottom):
   (A) Graduated Cylinder
   (B) Digestion tubes
   (C) Centrifuge tubes
   (D) Cuvettes

27 It refers to reproducibility of results when performed repeatedly from the same sample:
   (A) Accuracy
   (B) Dependability
   (C) Precision
   (D) Simplicity

28 Which transport medium is used to preserve throat swabs?
   (A) Toluene
   (B) Cary Blair medium
   (C) Formalin
   (D) Loeffler's medium

29 A material or preparation used to monitor the stability of test system within limits is called:
   (A) Normal solution
   (B) Control
   (C) None
   (D) Standard solution

30 Calculate the mean of (conc. of glucose in mg/dl) the given data:
   (90, 106, 115, 100, 98, 102, 120, 117)
   (A) 130
   (B) 120
   (C) 106
   (D) 96
31 Which type of flask is used for carrying out titrations?
(A) Round shape round bottom flask
(B) Conical flask
(C) Round shape flat bottom flask
(D) Flat bottom flask

32 Among the following which is the characteristic of a borosilicate glass?
(A) Chemical resistant
(B) Thermal Shock resistant
(C) All of these
(D) Heat resistant

33 Mean, median and mode determines:
(A) Sensitivity
(B) Specificity
(C) Central Tendency
(D) Accuracy

34 This is a TC pipette which holds 20 µl of blood:
(A) Serological pipette
(B) Pasteur Pipette
(C) Mohr pipette
(D) Sahli's pipette

35 Which sample is recommended to diagnose Lung diseases?
(A) Pleural fluid
(B) Pericardial fluid
(C) None of these
(D) Peritoneal fluid

36 How much of 75% Na₂CO₃ is required if we want to prepare 500 ml of 15% Na₂CO₃ solution?
(A) 125 ml 15% Na₂CO₃ + 375 ml Distilled water.
(B) 100 ml 75% Na₂CO₃ + 400 ml Distilled water.
(C) 125 ml 60% Na₂CO₃ + 375 ml Distilled water.
(D) 100 ml 75% Na₂CO₃ + 300 ml Distilled water.

37 Which fluid is present in the knee and elbow joints?
(A) Pleural Fluid
(B) Synovial Fluid
(C) Peritoneal Fluid
(D) CSF

38 5 gm of solute in 100 ml solution will be:
(A) 5%
(B) 100%
(C) 0.5%
(D) 50%

39 The microscopic slides and cover slips used for fecal examination should be cleaned with:
(A) Formalin
(B) Alcohol
(C) Detergent
(D) 5% phenol

40 Which preservative is added in urine to avoid Microbial growth?
(A) Thymol
(B) Choroform
(C) All of these
(D) Toluene
is the measure of central tendency of a database.

(A) Median  (B) Mode
(C) None of these  (D) Mean

42 Calculate the CV (%) of a dataset whose mean is 100 and SD is ± 3.78.
(A) 2.53%  (B) 2.9%
(C) 3.78%  (D) 3.99%

43 Which method is used to calibrate To-contain pipettes?
(A) Gravimetric Method  (B) Analytical Method
(C) None of these  (D) Photometric Method

44 Which test is used to determine statistical significant difference between means of two groups of data?
(A) t-test  (B) Chi-square test
(C) All of these  (D) F-test

45 How can we prepare 1 liter 0.1 M solution of NaOH from 0.5 M solution of NaOH?
(A) Add equal amount of NaOH and Distilled water.
(B) Add 200 ml 0.5M NaOH and 800 ml Distilled water.
(C) Add 800 ml 0.5M NaOH and 200 ml Distilled water.
(D) Add 500 ml 0.5M NaOH and 500 ml Distilled water.

46 Coefficient of variation is also known as:
(A) Relative Standard Deviation  (B) Mean
(C) Mode  (D) Standard deviation

47 Which specimen is used for diagnosis of meningitis?
(A) Blood  (B) Stool
(C) Synovial fluid  (D) CSF

48 Which rules helps the laboratory staff to say weather a Quality Control programme is under control or not?
(A) Southgard's rule  (B) Northgard's rule
(C) Westgard's rule  (D) Eastgard's rule

49 Which transport medias are used for throat swab?
(A) Carry Blair Medium  (B) Amies media
(C) All of these  (D) Stuart media

50 Which ions helps to convert prothrombin into thrombin?
(A) Mg²⁺  (B) OH⁻
(C) Fe⁺³  (D) Ca²⁺