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## **BRAINWARE UNIVERSITY**

**Term End Examination 2024-2025**

**Programme – DMLT-2023/DMLT-2024**

**Course Name – Hematology**

**Course Code - DMLT202**

**( Semester II )**

**Full Marks : 60**

**Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### **Group-A**

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Which Anticoagulant is recommended for determination of PPBS?
  - a) EDTA Vial
  - b) Fluoride Vial
  - c) Heparin Vial
  - d) Citrate Vial
- (ii) Which Anticoagulants used for determination of Coagulation studies?
  - a) EDTA
  - b) 3.2% Sodim Citrate Vial
  - c) 3.8% Trisodium Citrate
  - d) Heparin Vial
- (iii) The average amount of Hemoglobin in Red cell can be identified as \_\_\_\_\_.
  - a) MCV
  - b) MCH
  - c) MCHC
  - d) HCT
- (iv) Turk fluid is associated with \_\_\_\_\_.
  - a) TRBC Count
  - b) TLC Count
  - c) DC Count
  - d) TPC Count
- (v) IVY Method is basically associated with \_\_\_\_\_.
  - a) Estimation of ESR
  - b) Estimation of PCV
  - c) Estimation of BT
  - d) Estimation of CT
- (vi) Choose the unit considered for MCH \_\_\_\_\_.
  - a) no. of cells/cumm
  - b) femtoleters
  - c) pictogram
  - d) g/dl
- (vii) For the selection of Blood donors which test should be operated ?
  - a) Estimationn of PCV
  - b) Estimation of ESR
  - c) Estimation of Hb
  - d) Estimation of TLC

- (viii) In case of Smeear examination mainly Thick smear is done to observe \_\_\_\_\_.
- a) Screening of Parasite
  - b) Species identification
  - c) Buffy Coat
  - d) RBC Count
- (ix) Select the mismatch for Rell Cell indicies.
- a) MCH
  - b) MPV
  - c) MCV
  - d) MCHC
- (x) What is the name of the condition that results when a person does not have enough platelets ?
- a) Thrombocytosis
  - b) Thrombocytopenia
  - c) Thrombocythemia
  - d) All of these
- (xi) What is the typical reference range for reticulocyte count in peripheral blood?
- a) 0.1 - 0.5%
  - b) 0.5 - 1.5%
  - c) 1.5 - 3.0%
  - d) 3.0 - 6.0%
- (xii) What is the clinical significance of osmotic fragility testing?
- a) It is used to diagnose sickle cell disease and other hemolytic disorders
  - b) It is used to monitor blood glucose levels in diabetic patients
  - c) It is used to assess coagulation disorders
  - d) It is used to evaluate kidney function
- (xiii) Which vitamin deficiency can lead to megaloblastic anemia?
- a) Vitamin A
  - b) Vitamin B
  - c) Vitamin E
  - d) Vitamin D
- (xiv) Which of the following is NOT considered a piece of personal protective equipment (PPE) for hematology laboratory work?
- a) Lab Coat
  - b) Safety goggles
  - c) Stethoscope
  - d) Face shield
- (xv) By calculating  $N \times 200$  in Neubauer chamber we can interpret the total count of \_\_\_\_\_.
- a) RBCs
  - b) WBCs
  - c) Platelets
  - d) Reticulocytes

### Group-B

(Short Answer Type Questions)

 $3 \times 5 = 15$ 

2. Outline the parameters of Complete Hemogram with normal ranges. (3)
3. List the methods for Hb Estimation. Which is considered as more convenient and why? (3)
4. If the anemia gets worse, elaborate the symptoms that might be faced by a Patient. (3)
5. Compare and contrast between different Anticoagulated Vials on the basis of preparation and mode of action. (3)
6. Compare and contrast among the parameters of Biosafety Level and comment on their effectivity. (3)

**OR**

Explain how PPE can be helpful in protecting a person from harmful contaminant. (3)

### Group-C

(Long Answer Type Questions)

 $5 \times 6 = 30$ 

7. Illustrate different abnormal morphologies of Red Blood Cells and correlate with diseases where they might be seen. (5)
8. Explain different Coagulation related disorders and mention different Laboratory Testings. (5)

9. Describe the significance of the differential white blood cell count in diagnosing and monitoring infectious and inflammatory conditions. (5)
10. List different Red cell indices and describe what each indicates about the characteristics of red blood cells. (5)
11. List different types of Anemia and correlate with their causative factor. (5)
12. 550 Cells were counted in 5 squares of Neubauer chamber, Calculate and Interpret result. (5)

OR

- 170 Cells were counted in 4 squares of Neubauer chamber, Calculate and Interpret result. (5)

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