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BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – DMLT-2022

Course Name – Hematology

Course Code - DMLT203

(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 of the following is a common cause of low hemoglobin levels?

- | | |
|-------------------|--------------------|
| a) Dehydration | b) Iron deficiency |
| c) Kidney disease | d) Hypertension |

(ii) What is the function of eosin in the Leishman stain?

- | | |
|--|--|
| a) It stains the nuclei of white blood cells | b) It stains the cytoplasm of red blood cells |
| c) It stains the granules in eosinophils | d) It is a counterstain that stains the background |

(iii) Select the stain used for Blood is staining

- | | |
|-------------------|-------------------|
| a) Methylene Blue | b) Safranin |
| c) Carbol Fuchsin | d) Leishman Stain |

(iv) Select the disease when Hb% is increased

- | | |
|-----------------|----------------------|
| a) Anaemia | b) Polycythaemia |
| c) Both A and B | d) None of the these |

(v) Select the disease in which Abnormal level of PCV observed

- | | |
|------------------|-----------------|
| a) Anaemia | b) Cholera |
| c) Polycythaemia | d) All of these |

(vi) Select the instrument Red cell count is carried out

- | | |
|----------------------|---------------------|
| a) Electrogram | b) Sphygmomanometer |
| c) Haemoglobinometer | d) Haemocytometer |

(vii) Choose which part of quality management focussed on providing confidence that quality requirements will be fulfilled?

- | | |
|-----------------------|--------------|
| a) Quality Management | b) Quality |
| c) Quality Assurance | d) Uploading |

- (viii) Identify what is the composition of buffy coat ?
- a) Platelets + Plasma
b) Platelets + Serum
c) Platelets + Packed RBCs
d) Platelets + Leukocytes
- (ix) Identify Total RBC count for women is
- a) 4.4-6
b) 4.2-5
c) 4.0-5.0
d) 4.2-5.2
- (x) What Capillary tube used for PCV determination by micro hematocrit tube has an internal diameter about of
- a) 1 mm
b) 2 mm
c) 3 mm
d) 4 mm
- (xi) The rate at which the RBC settle down in one hour is known as
- a) PCV
b) ESR
c) Red cell indices
d) Hematocrit
- (xii) Select which anticoagulant used for HbA1c test is
- a) Sodium fluoride
b) Heparin
c) EDTA
d) Sodium Citrate
- (xiii) Select packed cell volume depends on
- a) Radius of the centrifuge
b) Speed of the centrifuge
c) Height of the blood column
d) All options
- (xiv) Select the name in which anemia MCV & MCH is higher than normal and MCHC is normal
- a) Microcytic anemia
b) Macrocytic anemia
c) Hypochromic anemia
d) aplastic anemia
- (xv) By which test, percentage distribution of leucocytes is observed
- a) total leucocyte count
b) Differential leucocyte count
c) Both (a) & (b)
d) None option

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define erythrocyte sedimentation rate and how it is measured. (3)
3. Define anticoagulants and function (3)
4. Describe the importance of quality control in the hematology lab (3)
5. Differentiate between quality control and quality assurance (3)
6. Explain What types of samples can be analyzed using a Neubauer chamber? (3)

OR

How can you classify Anaemia according to cell size and shape? (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Classify the different types of Anemia on the basis of color (5)
8. Discuss the general reference range of CBC (5)
9. Describe the importance of the Osmotic fragility test (5)
10. Describe the advantage of peripheral blood smear (5)
11. Explain some common methods used for obtaining a blood sample for DLC analysis, and how can the results of this test be interpreted to guide patient care? (5)

12. Explain the differences between microcytic anemia, macrocytic anemia, and hypochromic condition in terms of their causes, symptoms, and treatments? (5)

OR

Select and explain the key steps involved in preparing and interpreting a Leishman-stained blood smear (5)
