

**2022**

**ZOOLOGY — HONOURS**

**Paper : SEC-B-2**

**(Medical Diagnostic Technique)**

**Full Marks : 80**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

Answer **any eight** questions.

1. (a) What is hepatitis? 'Autoimmune hepatitis is not an infectious hepatitis'— Justify.  
(b) State the process of diagnosis and preventive measures of hepatitis.  
(c) What parameters of Liver function test act as indicators of inflammation in liver? (2+1)+5+2
2. (a) Write a brief note on haemocytometer.  
(b) How haemocytometer is used to count platelets of blood?  
(c) What are thrombocytosis and thrombocytopenia? 4+4+2
3. (a) State working principle of Glucometer for testing blood glucose mentioning different parts of it.  
(b) Mention advantages and disadvantages of Glucometer for testing blood glucose.  
(c) What is gestational diabetes? 5+3+2
4. (a) Differentiate between urine analysis and urine culture.  
(b) Write an explanatory note on ELISA-based method for detection of malarial parasites.  
(c) Write characteristic features of malignant cells. 2+6+2
5. (a) What is PSA Test?  
(b) 'The PSA test helps to detect prostate cancer'— Elaborate.  
(c) Write on causes, symptoms and prevention of hypertension. 2+2+(2+2+2)
6. (a) Enlist the physical characteristics of normal urine.  
(b) A doctor has suspected UTI from symptoms of a patient. What tests he would recommend for the purpose of correct diagnosis and proper treatment?  
(c) Write a brief note on X-ray as medical imaging of bone fracture. 3+2+5

**Please Turn Over**

7. (a) What are the clinical interpretations of following parameters of blood?

	Result	Biological Ref.
(i) Eosinophils	10%	0-6%
(ii) PCV	50%	36-46%
(iii) ESR	25 mm/hr	0-20 mm/hr
(iv) Bilirubin	2.1 mg/dL	1-2 mg/dL
(v) Alkaline phosphatase	108 U/L	35-105 U/L

(b) Describe the method of differential count of leucocytes (DLC) using Leishman's stain. 5+5

8. (a) Why microscopic method of detection of malarial parasites is called 'gold standard'?

(b) Briefly describe the stages of Erythrocytic Schizogony of *Plasmodium vivax* with labelled diagram. 3+(5+2)

9. (a) Write differences between :

2×5

- (i) Type I and Type II diabetes
- (ii) Primary and Secondary hypertension
- (iii) Benign and malignant tumours
- (iv) Glycosauria and Hyperglycemia
- (v) Infectious and non-infectious diseases.

10. (a) What is lipid profiling?

(b) Mention the clinical significance of lipid profiling.

(c) What is PET scan? How PET scan is used to detect cancerous cells? 2+4+(2+2)

11. (a) What is the objective of antibiotic sensitivity test?

(b) Describe a method of antibiotic sensitivity test.

(c) Define the terms : MIC and Antibiotic resistance. 2+4+(2+2)

12. What is MRI? Write the basic principle and application of MRI. How MRI is different from CT scan? 2+5+3

13. Write explanatory notes on :

(a) Tuberculosis, an infectious disease.

(b) Diabetes, a non-infectious disease. 5+5

14. Compare between :

(a) Microscopic vs. Rapid test (Malarial parasite detection)

(b) PET vs. CT scan (cancer detection). 5+5