

**M.Sc. 4th Semester Examination, 2010**

**BIO-MEDICAL LABORATORY SCIENCE  
AND MANAGEMENT**

**PAPER—XIII(U-25)**

*Full Marks : 40*

*Time : 2 hours*

**Answer all questions**

*The figures in the right-hand margin indicate marks*

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

*Illustrate the answers wherever necessary*

**MODULE—1**

**1. Answer any five of the following : 1 × 5**

**(a) Which of the following urine specimen is a  
choice for cytological studies ?**

- (i) First morning specimen**
- (ii) Random specimen**
- (iii) 'Clean catch' collection.**

(b) The ultrafiltration of plasma occurs in glomeruli located in the renal :

(i) Cortex

(ii) Medulla

(iii) Pelvis.

(c) Normally daily urine protein excretion does not exceed :

(i) 150 mg/day

(ii) 500 mg/day

(iii) 2.5 g/day.

(d) What is indicated by brownish black urine ?

(e) What is uromodulin ?

(f) Write the name of gram positive and gram negative bacteria in urine.

(g) What is the pH range of average individual's urine ?

(h) What is anuria ?

2. How harmonic oscillation densitometry works ? What is the basis of reagent strip method of urinary sp. gravity detection and mention its merits and demerits ? 4 + 2 + 2

*Or*

What are the different clinical conditions when ketone bodies are found in urine ? Which type of ketone bodies are generally detected by traditional method ? How do you measure all ketone bodies in urine—describe the method. 1 + 1 + 6

3. What is Bence-Jones protein ? Mention the name of different methods of microalbuminuria detection and also discuss about the suitable method of its detection mentioning its advantages over other methods. 2 + 1 + 4

*Or*

Discuss about the microscopic appearance of RBCs and WBCs in urine mentioning its characteristic features of identification. 3 + 4

MODULE-2

4. Answer any *five* of the following : 1 × 5

(a) Which of the following is not normally present in synovial fluid ?

- (i) Fibrinogen
- (ii) Neutrophils
- (iii) Protein
- (iv) Sodium

(b) Which cells are found in small number in normal CSF ?

- (i) RBC
- (ii) Lymphocytes
- (iii) Macrophages
- (iv) Plasma cells.

(c) Seminal fluid analysis is performed routinely to evaluate :

- (i) Prostate cancer
- (ii) Post-vasectomy status
- (iii) Penile implant status
- (iv) Premature ejaculation.

(d) What is the simplest and most widely used method for diagnosis of intestinal parasites in tropical countries ?

(e) Which organism is detected in CSF by 'India ink preparation' ?

(f) What is cobweb coagulum ?

(g) What are serous fluids ?

(h) What is mucin clot test ?

5. Describe the method of occult test for stool. What precaution should you follow while collecting stool sample ? How do you test the specimen of skin exudate containing *Treponema pallidum* ?

4 + 2 + 2

Or

What are the difference between transudates and exudates ? Mention the microscopic features of pleural fluid.

4 + 4

6. What is the normal cell count and types of CSF ? How will you define oligozoospermia ? Mention the name of crystal found in synovial fluid of pseudogout patient. 2 + 1 + 4

*Or*

Write short notes on :

$$3\frac{1}{2} + 3\frac{1}{2}$$

- (i) HGAFS  
(ii) 24 hr. urine collection.
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