

M.Sc.

2014

4th Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-401 (UNIT-25)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

• *Answer all questions.*

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

Choose the right *one* :

(a) Substances those show a diurnal variation in their urinary excretion pattern are best evaluated using a :

(i) First morning specimen ;

(ii) Random specimen ;

(iii) Timed specimen.

(Turn Over)

- (b) Which of the following is the urine specimen of choice for cytological studies :
- (i) Mid stream 'clean catch' collection ;
 - (ii) Random collection ;
 - (iii) Timed specimen.
- (c) If refrigeration is used to preserve a urine specimen which of the following may occur :
- (i) Formed elements will be destroyed ;
 - (ii) Amorphous crystals may precipitate ;
 - (iii) Bacteria will proliferate.
- (d) Infection in Kidney generally known as :
- Identify the right one :
- (i) Acute Glomerulonephritis ;
 - (ii) Chronic Glomerulonephritis ;
 - (iii) Pyelonephritis.
- (e) How will you differentiate haemoglobinuria and hematuria :
- (i) Lencocyte esterase test ;
 - (ii) Microscopic examination ;
 - (iii) Urine colour.

(f) A white precipitate in a 'normal' alkaline urine is mostly caused by :

Choose the right one :

- (i) Amorphous urates ;
- (ii) Amorphous pheophutes ;
- (iii) Radiographic contrast media.

(g) A small ion and a large uncharged molecule have the same effect when determining urine concentration by :

Choose the right one :

- (i) Osmolability ;
- (ii) reagent strip ;
- (iii) Urinometry.

(h) Normally, daily urine protein excretion does not exceed :

Choose the right one :

- (i) 150 mg/day ;
- (ii) 250 mg/day ;
- (iii) 63 mg/day.

2. (a) What is Fam Horsefall protein ?

(b) Describe different type of crystal with diagram along with its pathophysiological relevance. 2+6

Or

- (a) Write briefly about principle of Humanic Oscillation Densitometry for specific gravity determination.
- (b) Define microalbuminuria along with its significance and classify different types of proteinuria with respect to protein measured in 24 hr.
- (c) Why HLPC is the most suitable and precise method for microalbuminuria detection ? $2+(1+2)+2$
3. (a) Biochemically characterize '*Bence Jones Proteins*' with special reference to its protein folding and misfolding.
- (b) What is the difference between acute & subacute renal toxicity ?
- (c) Mention the basic principle of specific hydride generation method for urinary arsenic determination. $3+2+2$

Or

- (a) Prepare a model report of RE and CS of a patient with urinary tract infection.
- (b) Write the floating technique for the collection of cysts and eggs from the stool sample. $(2+2)+3$

4. Answer any *five* questions from the following : 5×1
- (a) What is transudate ?
 - (b) What is thoracocentecis ?
 - (c) What do you mean by waste residue of indigestible material ?
 - (d) What is *lactose intolerance* ?
 - (e) What is 'Butter stool' ?
 - (f) What is the normal count of WBC in synovial fluid ?
 - (g) Name two culture media used in sputum gram stain detection.
 - (h) Mention the pathological conditions when CSF pressure is increased.
5. (a) Describe the CSF collection method by lumber puncture ?
- (b) Mention the interfering factors responsible for deterioration of stool samples. 4+4

Or

- (a) What is synoviocytes ?
- (b) Describe 'Ropes test' and show the mode of interpretation of the result.
- (c) Make a comparative status of pathological features of different types of joint disorders. 2+3+3

6. (a) Classify different types of fluid accumulation in the pleural space.
- (b) How will you diagnose the pathological state of pleural effusion ? 3+4

Or

Write short notes on :

- (a) Differentiation of transudate and exudate.
- (b) Throat swab collection. 3+4
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