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 : 1x5

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 Glomerulonephrites;
   (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) Osmolabity;
(ii) regent 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 Farn 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 lumbar 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