

M.Sc.

2015

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) E. Coli or other bacterial infection when spread to Kidney generally known as :
- (i) acute glomerulonephritis ;
 - (ii) Cystitis ;
 - (iii) Pyelonephritis.

(Turn Over)

- (b) Inflammatory condition of urinary bladder in response to infection is :
- (i) Cystitis ;
 - (ii) Renal stone ;
 - (iii) Chronic glomerulonephritis.
- (c) The color of normal urine is due to :
- (i) urobilin ;
 - (ii) uroerythrin ;
 - (iii) urochrome.
- (d) Which of the following substances can change the color of the urine and its foam :
- (i) Bilirubin ;
 - (ii) Myoglobin ;
 - (iii) Protein.
- (e) Standing foam in urine indicates probable existence of :
- (i) Protein ;
 - (ii) Albumin ;
 - (iii) γ -globin.

- (f) Sweet or fruity smell in urine may be the characteristic feature of :
- (i) Diabetes Mellitus ;
 - (ii) UTI ;
 - (iii) Starvation.
- (g) Write precipitate of amorphous phosphate is found in :
- (i) Normal urine ;
 - (ii) Ketonuria ;
 - (iii) Haematuria.
- (h) Which of the following urine specimen is considered normal :
- (i) A freshly voided urine that is brown and clear ;
 - (ii) A freshly voided urine that is yellow and cloudy ;
 - (iii) A clear yellow urine specimen that becomes cloudy upon refrigeration.
2. (a) Define Tam Horsefall protein.
- (b) Describe different types these above proteins with its clinical significance. 2+6

Or

- (a) Discuss the merits and demerits of determining specific gravity of urine by urinometer and refractometer.
- (b) Mention the principle of refractometry.
- (c) How do you perform temperature correction in urinometry?
- (d) Mention the demerits of polyelectrolyte method in specific gravity determination with its principle.

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

3. (a) What is diabetic ketoacidosis and enumerate the reasons of ketonuria briefly.
- (b) 'Conventional Rothera's nitropruside test is unable to detect all types of ketone body and that will creating problem for the judgement of improvement of daibetic ketoacidosis following a diabetic therapeutic intervention' — justify. (1+2)+4

Or

- (a) What is Overt proteinuria?
- (b) What is the significance of albumin creatinine ratio?
- (c) What is Doping? Describe the collection technique of urine sample during dope test with diagram.

$$1+1+(1+4)$$

4. Answer any *five* questions from the following : 5×1
- (a) Write the name of the substances those produce normal odor in stool.
 - (b) What is ulcerative colitis?
 - (c) When 'Pea-soup' stool is found?
 - (d) Write the name of a test to detect the occurrence of hidden blood in stool.
 - (e) Write the full form of FNA.
 - (f) What is blood brain barrier?
 - (g) What is thoracocentesis?
 - (h) What are the functions of synoviocytes?
5. (a) What is arthrocentesis? How do you collect the sample of arthrocentesis?
- (b) Describe 'Mucin Clot test' with diagrammatic representation. (1+2)+5

Or

- (a) What is CCPD?
- (b) Mention the significance and characteristic features of monosodium urate crystal.
- (c) Differentiate exudate and transudate. 1+3+4

6. (a) Classify the fluids with their names that accumulate in the pleural space.
- (b) How do you collect pleural effusion ?
- (c) How do you perform gross examination of pleural fluid ?
- (d) What is the clinical significance of lactate dehydrogaese in pleural fluid ?

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

Or

- (a) Mention separately the conditions when neutrophils and lymphocytes are increased in CSF.
- (b) What does it indicated by elevated CSF protein ?
- (c) Mention the difficulties appeared during sputum collection.
- (d) How do you select the correct sputum specimen ?

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