

**M. Sc.****2017****4th Semester Examination****BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT****PAPER—BLM-401***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.**Q. No.1 and any three from the rest.***1. Answer all the questions of the following : 10×1****Choose the right one :****(a) Glassware used to measure 24 hour urine volumes is a :**

- (i) volumetric flask.
- (ii) erlenmeyer cylinder.
- (iii) graduated cylinder.
- (iv) safety (microbiological) cylinder.

*(Turn Over)*

- (b) Pus cells or fat in urine would cause the color :
- (i) red.
  - (ii) whitish-yellow.
  - (iii) milky-yellow.
  - (iv) milky-white.
- (c) 1/8 dilution of urine is :
- (i) 1 part water and 8 parts urine.
  - (ii) 1 part urine and 8 parts water.
  - (iii) 1 part urine and 7 parts water.
  - (iv) 1 part water and 7 parts urine.
- (d) Which is used to preserve 24 hour urine for endocrine testing :
- (i) Sodium bicarbonate.
  - (ii) Sodium hypochlorite.
  - (iii) Acetone.
  - (iv) Hydrochloric acid.
- (e) Amorphous urates :
- (i) form a white sediment in alkaline urine.
  - (ii) disappear if the urine is heated.
  - (iii) form a pink sediment in acidic urine.
  - (iv) (i) and (ii) are correct.
  - (v) (ii) and (iii) are correct.

- (f) A urine was positive for protein by the dipstick test but negative by the sulphosalicylic acid method. The urine probably :
- (i) was very alkaline.
  - (ii) contained radio opaque dye.
  - (iii) was very turbid.
  - (iv) was strongly positive for glucose.
- (g) Clinitest, icotest, acetest, SSA respectively means the following sequence of test :
- (i) glucose, bilirubin, protein, ketone.
  - (ii) glucose, ketone, protein, bilirubin.
  - (iii) ketone, protein, bilirubin, glucose.
  - (iv) glucose, bilirubin, ketone, protein.
- (h) Exudate :
- (i) material that has passed through a membrane or been extruded from a tissue.
  - (ii) covering the surface of all true serous membrane.
  - (iii) material that has escaped from blood vessels and has deposited in or on tissues.
  - (iv) Both (ii) and (iii).
- (i) What are the cellular content and cell types in transudates :
- (i) few leukocytes.
  - (ii) many leukocytes.

(iii) moderate leukocytes.

(iv) all are false.

(j) Arthrocentesis has relevance with :

(i) synovial fluid.

(ii) joint fluid.

(iii) pleural fluid.

(iv) CSF.

2. (a) What is midstream clean catch urine collection and why it is necessary ?

(b) How do you differentiate RBC and pus cells while testing urine sediment under microscope ?

(c) Discuss different types of cast with diagram and its clinical significance.  $(1\frac{1}{2} + 1\frac{1}{2}) + 2 + 5$

3. (a) Discuss briefly the demerits of urinometric method of sp. gravity determination.

(b) How do you perform temperature and glucose correction in urinometric method ?

(c) State the working principle of refractometer with diagram for specific gravity measurement.

2+4+4

4. (a) How do you perform heavy metal or metalloid detection in urine?  
(b) Discuss different pathological conditions of stool. 5+5
5. (a) What is diabetic Ketonuria? Discuss it with the causes of this conditon.  
(b) Describe a suitable test for the diagnosis of diabetic Ketonuria. 6+4
6. (a) Discuss the method of collection of different superficial bodily discharge with precautionary measurement.  
(b) Discuss the characteristic features of urate crystal in synovial fluid under polarized light. 6+4
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