M.Sc. 4th Semester Examination, 2012

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER – BMLSM-401/(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 – I

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

(*a*) The excretion of large volumes of urine (>3 *L*/day) is called –

(*i*) Polydipsia

(*ii*) Polyuria

(*iii*) Oliguria.

(*b*) Which of the following pigments deposit on urate and uric acid crystals to form a precipitate known as "brick dust"

(*i*) urochrome

(*ii*) uroerythrin

(*iii*) urobillin.

(*c*) A white precipitate in a 'normal' alkaline urine most likely is caused by

(*i*) amorphous phosphates

(*ii*) amorphous urates

(*iii*) uric acid crystals.

(*d*) PKU gives

(*i*) Mousy smell

(*ii*) Acetone smell

(*iii*) Pungent smell.

(*e*) Urine pH can be modified by all of the following except.

(*i*) diet

(*ii*) increased ingestia of water

(*iii*) UTI

(*f*) The classic Ehrlich's reaction is based on the reaction of urobilinogen with

(*i*) *p*-dimethylaminobenzaldehyde

(*ii*) *p*-amino-benzoic acid

(*iii*) dichloroniline..

(*g*) Urinary casts are formed with a core matrix of

(*i*) uromodulin

(*ii*) transferrin

(*iii*) microalbumin.

(*h*) Which of the following disorders is considered as a lower UTI

(*i*) Cystitis

(*ii*) Pyelitis

(*iii*) Glomerulonephritis.

2. (*a*) What is the significance of albumin creatinine ratio ?

(*b*) Describe in brief the modern aspects of Bence Jones protein detection.

(*c*) Why HPLC is designated as comparatively more suitable test for microalbuminuria? 1 + 4 + 3

Or

(*a*) Describe about different types of urinary crystals along with their significance.

(*b*) Prepare a model report for a patient suffering from UTI. 4 + 4

3. (*a*) "In diabetic ketoacidosis when acidosis resolves with treatment, but urine tests give the misleading impression that ketosis is not improving." — Explain.

(*b*) How do you overcome this problem by a suitable diagnostic test. 3 + 4

Or

(*a*) What is the application of harmonic oscillation densitometry?

(*b*) Describe the working principle of this technique with diagram.

(*c*) How do you perform temperature correction for a urine sample. 1 + 4 + 2

MODULE – II

4. Answer any *five* questions. 1 × 5

(*a*) What is transudate ?

(*b*) What is the application of 'India ink preparation' ?

(*c*) What is mucin clot test ?

(*d*) Increased fat or fatty acid is the consequence of following malabsorption syndrom

(*i*) Crohn's disease

(*ii*) Vit-B_{12} malabsorption

(*iii*) Iron malabsorption.

(*e*) Write the name of any one method for collection of stool of an infant.

(*f*) Write the use of sputum for the diagnosis of disease.

(*g*) What is swab ?

(*h*) Write the name of any one microorganism present in mouth specimen.

5. (*a*) Discuss briefly about the special recommendations for ova and parasite collection in stool.

(*b*) 'Fecal consistency may be altered in various disease states'– Elaborate.

(*c*) In which condition large amounts of leukocytes are found in stool? 3 + 3 + 2

Or

(*a*) Write the process for the transfer of stool from the collection centre to diagnostic centre.

(*b*) State in brief about the routine examination of sputum. 2 + 6

6. (*a*) What is Cobweb Coagulum?

(*b*) How do you test the specimen of skin exusdate containing treponema pallidum?

(*c*) How do you collect and process CSF for laboratory investigation? 1 + 2 + 4

Or

(*a*) What are the precautions adopted for the collection of sputum.

(*b*) Describe in brief about microbiological examination of sputum. 2 + 5
