2017

M. Sc.

1st Semester Examination

BIO-MEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-102

Subject Code—22

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 *Q. No. 1* and any *three* of the following.

1. Answer all the questions with selecting the right option : 10×1

(i) L-g Chart is used for

(a) Accuracy ;

(b) Precision ;

(c) Reproducibility ;

(d) All of the above.

(ii) Personal integrity is expected of all health care professionals and is exemplified by :

(a) Doing what's right when no one is looking.

(b) Being in time or early for appointments.

(c) getting things quickly done before the shift is over.

(d) Being a jack of all trades in the laboratory.

(iii) The main programms of the quality assurance department are :

(a) Risk management, in service and continuing education, education safety programs, qualit control and peer review.

(b) Human resources, national laboratory week committee, and quality control documentation.

(c) Diversity, red ribbon week, and health and safety training.

(d) Laboratory operations, research and development.

(iv) Precision of a method is best defined as —

(a) Agreement between replicate measurements obtained from the sample analyzed by the test method under prescribed conditions.

(b) Allowable bias.

(c) Accuracy.

(d) Closeness of the agreement between the result of the measurement and a true value of the measured.

(v) Select one of the postanalytic phase.

(a) Specimen preparation.

(b) transportation of specimen.

(c) Collection of specimen.

(d) Receiving the report by clinician.

(vi) Correct selection of medical laboratory technologist primarily requires the following except —

(a) educational background.

(b) Technical competence.

(c) Capability to repair instrument.

(d) Realization to trace out the fault.

(vii) The percent of the sample means will have values that are with ± 3 standard deviation of the distribution mean is

(a) 95.5 (b) 96.7

(c) 97.6 (d) 99.7

(viii) The individual responsible for maintaining accurate laboratory manual is the —

(a) Medical assistant.

(b) Medical Laboratory technologist.

(c) Laboratory Director.

(d) Team Leader of a Laboratory.

(ix) A printed form used by physicians to request a laboratory test for a patient is an —

(a) Action form. (b) Procedure form.

(c) Requisition. (d) Manual form.

(x) Binding Morter resembles

(a) A good teamwork.

(b) A good communication system.

(c) A good recognition of a Laboratory.

(d) All of the above.

2. (a) A test of HIV showed out of 80 positive cases with this test 50% actually had no disease. Out of 9920 tested negative cases, 9840 actually had no disease. What are the probabilities that a person positive and negative to this test ?

(b) How a perfect teamwork could be developped in a Laboratory discuss with special reference to the divisions of the team in a TQM system. 6+4

3. (a) Discuss the WHO guidelines of quality assurance.

   (b) Describe the different components of quality assurance.

   (c) What is cost of non conformance ? 2+5+3

4. (a) Define OCV and RCV with its significance.

   (b) Following data are given for OCV and RCV for haemoglobin :

   OCV – 12, 13, 12, 11.5, 12, 13, 12

   RCV – 11, 11.5, 12.5, 13.5, 14.0, 13, 12

   Interpret your result. (2+2)+6

5. (a) State briefly different types error genarated in a Laboratory with its preventive measures.

   (b) Blood glucose levels of a test for control samples for 10 days are

   65, 61, 67, 73, 72, 70, 68, 69, 66, 65 Interpret your result using cusum chart.

(c) How do you calibrate a micropipette in a Laboratory ? 4+4+2

6. (a) Elaborate the basic orientation of Westgard rule diagrammatically.

(b) State the clinical significance of this above rule.

(c) Control–1 has a mean of 240 mg/dl and standard deviation is 6.0 control–2 has a mean of 2.70 mg/dl and standard deviation is 9.0.

The values of analysis of these control samples are

Control–1 – 240, 245, 225, 210, 195, 238, 242, 202, 231, 216.

Control–2 – 268, 260, 273, 236, 245, 265, 280, 320, 268, 261.

Interpret your result on the basis of the violation of rules. 3+2+5

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