2022

1st Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

Paper : BMLSM 101

Full Marks : 40 Time : Two Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

Answer any ***four*** of the following : 2×4=8

1. Define 'accuracy'.
2. Differentiate primary containment and secondary containment.
3. What is meant by specificity of a test ?
4. Briefly state about external failure cost.
5. Define conflicts of interest.
6. What is PPE ?

P.T.O.

Group - B

Answer any ***four*** of the following : 4×4=16

7. A control sample for testing haemoglobin gives following results (g/dl) in optimum and routine condition :

   Optimum : 11.2, 10.9, 11.0, 11.1, 11.3, 10.8, 11.2, 11.0, 11.2, 10.9

   Routine : 11.7, 11.4, 11.3, 11.5, 11.7, 11.6, 11.0 11.2, 11.1, 11.0

   Check the accuracy of the test and interpret your result. 4

8. What do you mean by 'risk group of microorganism ? What are the appropriate safety measures to be implemented during the heat sterilization of inoculation loop ? 2+2

9. Enumerate your idea about different types of 'Teamwork' for the successful implementation of problem solving mechanism in a laboratory ? Name the different components of PDCA. 2½+1½

10. In a community the TP is 18%, FN is 9 times less than TP and FP is 20 times more than FN. Calculate the specificity, sensitivity and positive and negative predictive values of the test. 4

11. What are the categories of risk in biomedical research ? 4

12. Write the standard design and facilities for basic laboratories as per WHO. 4

Group - C

Answer any ***two*** questions : 8×2=16

13. What is systematic error ? How do you check if there is any systematic error ? Cholesterol level of a control serum for consequitive 15 days showed the following results (mg/dl) : 200, 205, 195, 202, 186, 207, 194, 209, 200, 196, 190, 204, 196, 207, 200. Perform the Levy Jennning plot and interpret your result. 1+1+6

14. Discuss briefly about the basic schemes of Westgard rule with diagramatic representation. Illustrate briefly about different levels of biosafety in a laboratory. 4+4

15. What is meant by "4R concept" in animal experiments ? Discuss the responsibilities of IEC. 4+4

16. Discuss briefly the different types of chemicals hazards in the laboratory. What are the material present in the laboratory first-aid kit? Draw the symbol of biohazard. 3+3+2
