

**PG (CBCS)**  
**M.Sc. Semester- III Examination, 2023**  
**MEDICAL LABORATORY TECHNOLOGY**  
**PAPER: MLT 301**  
**(RESEARCH METHODOLOGY & BIostatISTICS USING COMPUTER**  
**SOFTWARE)**

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.

**GROUP-A**1. Answer any **FOUR** of the following questions: 2×4=8

- a) Levey-Jennings chart uses for which statistical measurement?
- b) Define quantitative research.
- c) Define hypothesis.
- d) Define non-probability sampling.
- e) Write the basic difference between overview and review.
- f) What is auto plagiarism?

**GROUP-B**2. Answer any **FOUR** of the following questions: 4×4=16

- a) Compute the Median and Standard deviation of the following body weights [kg] scores:

Class intervals:	51-53	54-56	57-59	60-62	63-65	66-68	69-71
Frequencies:	40	7	10	20	10	6	3

- b) "Laboratory technologists are action researchers" – justify the statement.
- c) Write the different criteria for a good experimental research output.
- d) State about the ANOVA and different types of ANOVA with example.
- e) Describe the procedure of adoption of 'Null and Alternative' hypothesis.
- f) Discuss about the different types of correlation and how do you compute the correlation of coefficient?

**GROUP-C**3. Answer any **TWO** of the following questions: 8×2=16

- a) Write the assumption of unpaired t-test. Calculate and interpret the co-relation of coefficient from the following scores?

FBS (mg/dl): 105,225,240,160,280,170, 210,350, 100.

Cholesterol level (mg/dl): 250, 330, 240,190, 310,440,300, 250,420.

P.T.O

b) Why chi-square test is non-parametric test?

Find out whether or not significance association between diabetes and hypertension, when 40 are hypertensive out of 90 are diabetes individuals, whereas out of 100 non-diabetic 15 are hypertensive with using the selected critical chi-square value as given below.

— Critical  $\chi^2_{0.02(3)} = 9.84$ ,  $\chi^2_{0.02(2)} = 7.82$ ,  $\chi^2_{0.02(1)} = 5.41$

- c) State the salient features of a good research report writing. Discuss the different section adopted in research report writing.
- d) What are the special features of action research? Write the major steps of research ethics applicable in medical pathological laboratories.

\*\*\*\*\*

