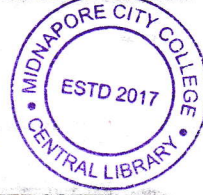


PG (CBCS)
M.Sc. Semester-III Examination, 2022
MEDICAL LABORATORY TECHNOLOGY
PAPER: MLT 301
(RESEARCH METHODOLOGY & BIostatistics USING COMPUTER SOFTWARE)
Full Marks: 40 **Time: 2 Hours**



GROUP-A

Answer any FOUR from the following questions:

4×2=8

1. Which type of statistical measurement is used in laboratory quality control?
2. Differentiate between qualitative and quantitative research.
3. What do you mean by research ethics?
4. Reference values are what type of statistical measure and why?
5. What are the importance of sampling?
6. Differentiate between variance and variable.
7. What do you mean by research methodology?
8. What are the main applications of health statistics?

GROUP-B

Answer any FOUR from the following questions:

4×4=8

9. Compute the Median and Standard deviation of the following body weights (Kg) scores:
 Class interval: 51-53, 54-56, 57-59, 60-62, 63-65, 66-68, 69-71
 Frequencies: 4, 7, 14, 28, 14, 7, 4
10. Differentiate between simple and stratified random sampling with examples
11. Write the different criteria for a good experimental research output.
12. State the reason for preferring ANOVA than T-test and different types of ANOVA.
13. Write the different types research with examples.
14. Discuss about the different types of correlation and how do you compute the correlation of coefficient.
15. Write the criteria of a good questionnaire
16. Write the four types of plagiarism.



GROUP-C

Answer any **TWO** from the following questions:

2×8=16

17. Distinguish between unpaired and paired t-test. (3+5)
How to compute 't' value from the following pair scores of fasting and PP blood sugar levels (mg/dl) of 9 diabetic patients.
FBS: 95, 125, 140, 160, 180, 170, 110, 150, 200.
PPBS: 250, 330, 240, 190, 310, 440, 300, 250, 420.
18. Why chi-square test is non- parametric test? (2+6)
Find out whether or not significance association between diabetes and hypertension, when 10 are hypertensive out of 70 diabetic individuals, whereas out of 60 non-diabetic 10 are hypertensive with using the selected critical chi-square value as given below.
Critical $\chi^2_{0.02(3)} = 9.84$, $\chi^2_{0.02(2)} = 7.82$, $\chi^2_{0.02(1)} = 5.41$
19. Write the difference between independent and dependent variables in experimental research. Why quasi experimental research not consider as experimental research? (4+4)
20. What are the special features of action research? Write the major steps of research ethics applicable in medical pathological laboratories. (3+5)
