

2021

PHYSIOLOGY — HONOURS

Paper : DSE-A-1

(Biostatistics)

Full Marks : 50

*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

1. Answer *any five* questions :

2×5

- (a) What is stratified random sampling?
- (b) Name one physiological parameter which could produce :
 - (i) Continuous data
 - (ii) Discontinuous data.
- (c) What is a histogram?
- (d) What is Yates' correction?
- (e) What is meant by Randomization of treatment in anova?
- (f) What is a standard score?
- (g) Give two physiological examples where median should be used.
- (h) What is meant by prediction statistics?

Group – B

2. Answer *any two* questions :

- (a) What are the different methods of sampling? 5
- (b) What kind of data is represented by a bar diagram? Explain with an example how a simple bar diagram can be drawn from a data set. What is smoothening of a frequency polygon? 1+2+2
- (c) Distinguish between dependent and independent variables with examples. 5
- (d) Write the different forms of kurtosis and skewness of normal distribution with neat diagrams. 5

Please Turn Over

Group – C

Answer **any three** questions.

3. State Null hypothesis. Write the formula used to calculate standard deviation of a sample size more than thirty and less than thirty. What are the assumptions taken while computing a 'z' score? 2+3+5
 4. What is a statistical hypothesis? Describe sequentially the steps in the testing of Hypothesis. 2+8
 5. Write short notes on **any two** of the following : 5×2
 - (a) Probability in statistics
 - (b) Models of regression
 - (c) Measurement variable with examples.
 6. What are central tendencies? State the advantages and disadvantages of mean as a central tendency over median and mode. What is the mathematical relationship of mean, median and mode? Draw the mean, median and mode in a normal distribution curve. 2+(2+2)+2+2
 7.
 - (a) Define product moment correlation coefficient.
 - (b) Explain the concept of correlation with an example of physiological importance. How does linear correlation differ from non-linear correlation?
 - (c) Name the tests used for comparing the means of : (i) two groups of sample, (ii) more than two groups of sample.
 - (d) Write the full form of ANOVA and explain it. 2+(2+1)+(2+1)+2
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