

Question Paper

Exam Date & Time: 01-Feb-2019 (10:00 AM - 11:30 AM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER MASTER IN HOSPITAL ADMINISTRATION DEGREE EXAMINATION - JAN/FEB 2019
SUBJECT: MHA 505 - STATISTICS AND RESEARCH METHODOLOGY
(2018-20 BATCH - REPEATERS)
Friday, February 01, 2019 (10.00 - 11.30)

Answer ALL the questions.

Marks: 50

Duration: 90 mins.

- 1) Define a variable. Mention different types of variables with examples for each. (6)
- 2) Write a short note on Stratified Sampling. Discuss its advantages and disadvantages. (6)
- 3) Construct a bar chart for the distribution of number of pregnancies of a group of women aged 30 - 34 years attending an antenatal clinic. (5)

Number of previous pregnancies	0	1	2	3	4
Number of women	18	27	31	19	5

- 4) A researcher studied 10 - HIV positive patients who were treated with highly active antiretroviral therapy (HAART) for at least six months. The CD4 T cell counts ($\times 10^6 / l$) at base line for the subjects are as follows:
230 210 313 173 158 103 181 115 301 216
Calculate median and Interquartile range. (6)
- 5) Briefly explain the components of a research protocol. (10)
- 6) Differentiate between probability and non probability sampling techniques. (5)

7. Fill in the blank:

- 7A) Normal is a ____ probability distribution. (Discrete/Continuous) (1)
- 7B) Mean and variance of poisson distribution are ____ and ____ respectively. (1)

8. Define:

- 8A) Standard error of a statistic. (2)
- 8B) Sampling distribution. (2)
- 8C) Level of significance. (2)

9. Select the appropriate choice from the options provided:

- 9A) If length of hair is measured in inches, then the unit of standard deviation of hair length is:
i) Inches (1)

- ii Percent
- iii) Inches²
- iv) No unit

- 9B) Which of the following is not an advantage of sampling? (1)
- i) Only procedure when population is infinite
 - ii) Gives the better estimate than census
 - iii) Saves time and labour
 - iv) Reduces cost
- 9C) Graphs and charts facilitate: (1)
- i) Comparison of values
 - ii) To know the trend
 - iii) To know the relationship
 - iv) All of the above
- 9D) Mode is the value in a frequency distribution which possesses: (1)
- i) Minimum frequency
 - ii) Maximum frequency
 - iii) Frequency one
 - iv) None of the above

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