

Total number of printed pages-4

34 (2) RMBI 2-5

2017

**RESEARCH METHODOLOGY
AND BIostatISTICS**

Full Marks : 80

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

1. Answer the following questions : **(any two)**
10×2=20

(a) What are the qualities of a good research? Write about the problems encountered by researchers in India.

Or

What is Hypothesis? Elaborate the importance of Hypothesis in Research. Also discuss in brief the characteristics of a Good Hypothesis.

(b) Write a note on different types of sample design. Discuss the different types of probability and non-probability sampling.

Contd.

Or

What do you mean by measurement in research? Discuss the four scales of measurement.

- (c) Write in detail about the measures of central tendency.

Or

Write about the application of computer in medical field. Write in detail about Computers and Researcher.

2. Short Answer type : **(any eight)** $5 \times 8 = 40$

- (i) Bring out the difference between Questionnaire and Schedule.
- (ii) Discuss the role of Statistics in Research.
- (ii) Bring out the difference between Primary data and Secondary data. Also write about the different methods of collection of primary data.

- (iv) Draw a histogram out of the following data : (use graph paper)

| Class-Interval | Frequency |
|----------------|-----------|
| 10 - 20 | 4 |
| 20 - 30 | 8 |
| 30 - 40 | 2 |
| 40 - 50 | 10 |
| 50 - 60 | 0 |
| 60 - 70 | 2 |
| 70 - 80 | 12 |
| 80 - 90 | 6 |
| 90 - 100 | 6 |

- (v) Write about the normal probability curve. What are its properties? Also write about the importance of normal probability curve.
- (vi) Calculate the Arithmetic mean from the following table :

| Age in years (x) | Number of students (f) |
|----------------------|----------------------------|
| 0 | 21 |
| 1 | 39 |
| 2 | 65 |
| 3 | 20 |
| 4 | 23 |
| 5 | 10 |
| 6 | 08 |
| 7 | 06 |
| 8 | 05 |
| 9 | 02 |
| 10 | 31 |

(vii) What is Binomial distribution? Write the characteristics of the Binomial Distribution.

(viii) What is the importance of the study of statistics in physiotherapy?

(ix) Given a normal distribution of 100 scores with Mean = 4 and SD=2. What percentage of cases lie between 2 and 8?

(x) What is Analysis of Variance (ANOVA)? Write the assumptions of Analysis of Variance.

3. Very short answer: (**All questions are compulsory**) 10×2=20

(i) What is Biostatistics?

(ii) Mention the objectives of Research.

(iii) Write the definition of Statistics.

(iv) What is Type I and Type II error?

(v) What is Parameter?

(vi) What is Population?

(vii) What is Inferential Statistics?

(viii) Mention *any two* criteria for selecting sampling procedure.

(ix) What is a Research Problem?

(x) Mention *any two* merits and *two* demerits of Arithmetic mean.