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2012

(April)

**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*) :
2×10=20

(i) "Processing of data implies editing, coding, classification and tabulation". Describe in brief these four separations pointing out the significance of each in context of research study.

Or

"Empirical research in India in particular creates so many problems for the researchers".

State the problems that are usually faced by such researchers.

Contd.

- (ii) What do you mean by 'Sample Design'? What points should be taken into consideration by a researcher in developing a sample design for the research project?

Or

What is normal distribution? Write *any five* characteristics of the distribution. Mention *two* types of diverging forms.

- (iii) In a study on growth of children, one group of 100 children, had a mean height of 60cm and SD of 2.5cm while another group of 150 children had a mean height of 62cm and SD of 3cm. Is the difference between the two groups statistically significant?

Or

The rating of six trainees by four doctors on their performance is given below :

Trainees Details	Ratings of trainees by doctors					
	1	2	3	4	5	6
A	10	4	8	3	6	9
B	6	5	4	4	8	7
C	8	3	7	2	6	8
D	7	4	4	2	7	7

Find out whether there is any significance of difference between doctors on their grading by applying ANOVA technique.

2. Answer the following questions (*any eight*) :
8×5=40

- (i) Differentiate between Research Methods and Research Methodology.
(ii) Point out the characteristics of Binomial distribution.
(iii) What is research design? Give your understanding of a good research design.
(iv) Mention *any two* basic principles of graphical representation. Draw a frequency Polygon for the following table of distribution. (Use graph paper)

Class Interval	Frequency
50-54	3
55-59	5
60-64	7
65-69	16
70-74	20
75-79	12
80-84	5
85-89	5
90-94	2
	<u>N=75</u>

- (v) Point out *any five* differences between questionnaires and schedules.
- (vi) How would you differentiate between descriptive and inferential statistics?
- (vii) What is one-tailed and two-tailed test?
- (viii) Oral surgery unit of a dental college performed the following number of operations each month. Calculate mean, median and mode out of the given data.
15, 18, 25, 40, 25, 18, 25, 21, 30, 33, 25
- (ix) How are computers used as a tool in research?
- (x) Explain the meaning of confidence interval.

3. Answer in short : $10 \times 2 = 20$

- (i) What is Research Problem?
- (ii) What is Analysis of Covariance?
- (iii) What is Interval scale?
- (iv) Mention *any two* characteristics of chi-square test.

- (v) What is students 't' test?
- (vi) What is sampling distribution?
- (vii) What is Null and Alternative Hypothesis?
- (viii) What is parameter and statistic?
- (ix) What is error in sampling design?
- (x) What is variable? What are the types of variable?