



# Sanjay Ghodawat University, Kolhapur

2017-18

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

FY M. Sc.

School of Science

Semester II

REM 502

Research Methodology-II

Max Marks: 100

May 2018

End Semester Examination (ESE)

Time: 3 Hrs.

31 May 2018

Instructions for Students: 1) Use of non-programmable calculator is allowed

10:30 AM to 1:30 PM 2) All questions are compulsory

Q1

Choose the correct answer

Marks

20

COs

- |   |  |   |   |
|---|--|---|---|
| 1 | The default font size in LaTeX is  | 1 | 2 |
|   | A) 11  |   |   |
|   | B) 12  |   |   |
|   | C) 10  |   |   |
|   | D) 13  |   |   |
| 2 | Hypothesis should be specified ----- research is conducted.  | 1 | 1 |
|   | A) before  |   |   |
|   | B) after   |   |   |
|   | C) in between  |   |   |
|   | D) Middle  |   |   |
| 3 | .....is that one in which there exists relationship between two variables one is called independent variable or cause and other is dependent variable or effect. | 1 | 1 |
|   | A) Simple hypothesis   |   |   |
|   | B) Complex Hypothesis  |   |   |
|   | C) Working hypothesis  |   |   |
|   | D) Null Hypothesis   |   |   |
| 4 | To use \ in latex output we use the command  | 1 | 2 |
|   | A) \   |   |   |
|   | B) \backslash  |   |   |
|   | C) \textbackslash  |   |   |
|   | D) \\  |   |   |
| 5 | ..... is a hypothesis that is provisionally accepted as a basis for further research.  | 1 | 1 |
|   | A) Simple hypothesis   |   |   |
|   | B) Complex Hypothesis  |   |   |
|   | C) Working hypothesis  |   |   |
|   | D) Null Hypothesis   |   |   |
| 6 | According to..... there is no relationship between dependent and independent variable.   | 1 | 1 |
|   | A) Alternative Hypothesis  |   |   |
|   | B) null hypothesis   |   |   |
|   | C) Logical Hypothesis  |   |   |
|   | D) Statistical Hypothesis  |   |   |
| 7 | Chapter envirmnt is not available with.....class   | 1 | 2 |
|   | A) Book  |   |   |
|   | B) Report  |   |   |
|   | C) article   |   |   |
|   | D) IEEEs   |   |   |
| 8 | The arithmetic mean of the series 85, 70, 10, 75, 500, 8, 42, 250, 440, 36 is  | 1 | 3 |
|   | A) 110.6   |   |   |
|   | B) 111.6   |   |   |
|   | C) 112.5   |   |   |
|   | D) 145   |   |   |
| 9 | Find the median 34, 32, 48, 38, 24, 30, 27, 21, 35   | 1 | 3 |
|   | A) 30  |   |   |
|   | B) 32  |   |   |
|   | C) 31  |   |   |
|   | D) None of these   |   |   |

10	To write a group of equation with no number, then we use A) <code>\begin{equation}.....\end{equation}</code> B) <code>\begin{equation*}.....\end{equation*}</code> C) <code>\begin{eqnarray}.....\end{eqnarray}</code> D) <code>\begin{eqnarray*}.....\end{eqnarray*}</code>	1	2
11	The minimum value of correlation coefficient is A) 0 B) 1 C) -1 D) 0.5	1	3
12	The structure between <code>\documentclass{report}</code> and <code>\begin{document}</code> A) main body B) preamble C) Structure D) none of these	1	2
13	The correlation between income and expenditure is A) positive B) negative C) 0 D) None of these	1	3
14	Non Probability form of sampling is A) Random Sampling B) Non Random Sampling C) Probability Sampling D) Quota Sampling	1	3
15	<code>\begin{thebibliography}{9}</code> , the parameter 9 inside the curly bracket cannot be greater than..... A) 9 B) 10 C)99 D)200	1	2
16	Which of the following is not a part of preliminary pages of a report A) Title and date B) Acknowledgement C) Bibliography D) Table of content	1	1
17	Which one of the following is not a documentclass in Latex A) book B) report C) plain D) Letter	1	2
18	.....is the "wrongful appropriation" and "stealing and publication" of another author's "language, thoughts, ideas, or expressions" and the representation of them as one's own original work. A) Reference B) Citation C) Plagiarism D) Acknowledgement	1	2
19	What are secondary data? A) Ordinal data. B) Ordinary data. C) Unimportant data D) Existing data.	1	1
20	<code>\TeX</code> computer a computer language created in..... A) 1960 B) 1970 C)1980 D) 1965	1	2
<b>Q2</b>	<b>Attempt any Four</b>	<b>40</b>	
a)	Define sampling and explain in detail different sampling methods.	10	1
b)	Calculate Karl Person's coefficient of correlation from the following table:	10	3

x	2.6	2.8	2.9	3.1	3.2	2.3	2.5	1.8
y	5.9	6	6.2	6.2	7.6	7	7.5	5.5

c) Write the latex code to generate the following table

10 2

Table : Mark Sheet

Roll No.	Subject 1	Subject 2	Subject 3
1	50	837	970
2	47	877	230
3	31	25	415
4	35	144	2356
5	45	300	556

- d) Explain in detail the elements of research report.  
e) Define plagiarism and explain in detail techniques to avoid it.

10 1  
10 2

**Write a note on any Four of the following:**

- a) Hypothesis  
b) Measures of central tendency  
c) Preliminary pages of the report  
d) Documentclass in LaTeX  
e) Correlation

20  
05 1  
05  
05 1  
05 2  
05 3

**Attempt any Five**

- a) Write a note on types of hypothesis  
b) Use of statistics in research  
c) Use of LaTeX in research  
d) Calculate arithmetic mean from the following table

20  
04 1  
04 3  
04 2  
04 3

Classes	5- 10	10-15	15-20	20-25	25-30	30-35	35-40
Freq.	6	5	15	10	5	4	3

e) Write the latex code to generate the following equation array

$$\begin{aligned} \cos 2\theta &= \cos^2 \theta - \sin^2 \theta \\ &= 2 \cos^2 \theta - 1 \\ &= 1 - 2 \sin^2 \theta \end{aligned}$$

04 2

f) What is random sample method?

04 1

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