

**2018**

**M. Phil.**

**1st Semester Examination**

**COMMERCE**

**PAPER—COM-112**

*Full Marks : 25*

*Time : 1 Hour*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**RESEARCH METHODOLOGY—II**

1. Answer any *two* questions : 2×5

- (a) Explain the interview method of data collection. Why interview method is more preferred than the other methods of primary data collection, especially in social science research focused on deprived rural community ?

*(Turn Over)*

- (b) "Sampling is a necessity under certain conditions." Illustrate the statement with suitable example.
- (c) 'Internet based survey is cheaper than the field survey'. Do you agree? Explain.
- (d) Compare and contrast the parametric test with the nonparametric test. Write the names of any four popular nonparametric tests applied in social science.

2. Answer any *one* question :

1×10

- (a) (i) Explain the method of drawing a stratified sample. State the situation where stratified random sampling is preferred to simple random sampling.
- (ii) What do you mean by 'Standard Error'? How do you distinguish between 'Standard Error' and 'Standard Deviation'? (3+2)+(2+3)

(b) (i) What do you understand by degree of freedom ?

(ii) The performance of 200 Gram Panchayats from the northern and southern parts of Paschim Medinipur has been assessed and those have been categorized as excellent performers, good performers and average performers.

Performance →	Excellent	Good	Average
Northern Zone	22	50	30
Souther Zone	18	60	20

Run Chi-square test to examine whether the performance of Panchayats are independent from zonal position. 2+8

**[Internal Assessment : 5 Marks]**

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**Unit-II**

**(PRACTICAL)**

*Full Marks : 25*

*Time : 1 Hour*

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**Research Methodology — II**

1. Answer any *two* questions : 2×10

- (a) 74 Students of M.Com of Vidyasagar University are randomly selected, 20 of whom learn from classroom teaching only, 24 of them learn from online and remaining 30 students learn from distance mode. The marks in statistics of three groups of students have been recorded.

*(Turn Over)*

*Students' Marks in Statistics (out of 100)*

Classroom	75	80	55	65	90	62	50	46	55	82	56	84	73	68	66
Online	65	82	75	62	49	38	88	60	42	49	62	67	53	82	90
Distance	55	34	69	34	60	51	58	42	64	58	34	63	82	46	58

Classroom	53	49	60	80	71	-	-	-	-	-	-	-	-	-	-
Online	35	64	50	58	73	65	68	56	82	-	-	-	-	-	-
Distance	42	67	39	62	50	48	60	36	70	62	55	42	56	55	76

Required :

- A) Important data from excel file (given to your desktop) to SPSS data file.
- B) Run one-way ANOVA to test whether the average marks obtained by the students in three different modes of learning differ significantly [state clearly your hypotheses]
- C) If any significant difference is observed then apply Tukey's HSD test to identify for which pair of learning mode such significant difference exists.
- D) Export your results in an M/S Word file and write your conclusion about the hypotheses. 1+5+2+2

- (b) (i) A study was conducted to compare the efficiency of workers of two mines, one with private ownership and the other with government ownership. The researcher was interested to test whether there is any significant difference in their efficiency level. 20 workers from private sector mine and 24 from government sector mine were selected and their average output per shift (in quintal) was recorded.

*Output per shift in quintal*

Govt. Sec. Mine	48	45	33	39	34	49	33	45	48	44	45	45
Pvt. Sec. Mine	41	39	35	34	33	36	37	37	41	42	39	38

Govt. Sec. Mine	36	48	41	47	39	49	38	45	-	-	-	-
Pvt. Sec. Mine	38	39	41	40	41	40	38	41	43	40	42	44

Import the data from excel file to SPSS data file and test at 5% level whether there is any significant difference in output efficiency of private mine workers from the workers of government mine.

State your hypothesis and interpret the result of the test in a word file.

- (ii) A corporate training institution claimed that its training program can greatly enhance the efficiency of call center employees. A big call center sends some of its employees for the

training program. The efficiency was measured one month period prior to sending the employees to the training program and the efficiency of the same employees one month after the training program. The data are as follows :

Employee	1	2	3	4	5	6	7	8	9	10	11	12
Eff. Before training	41	35	40	50	39	45	35	36	44	40	46	42
Eff. After training	44	36	48	47	40	52	35	51	46	55	39	40
Employee	13	14	15	16	17	18	19	20				
Eff. Before training	37	34	38	42	46	39	40	45				
Eff. After training	36	39	50	46	49	42	51	37				

Perform appropriate test to examine whether the training program has increased the efficiency of employees.

State your hypothesis and interpret the result of the test in a word file. 5+5

- (c) Import the data from MS-Excel to Eviews statistical package and check the stationary property of data series using Augmented Diskey-Fuller test (ADF) and determine the long-run co-movement between Foreign Direct Investment (FDI) to India and Index of Industrial Production (IIP) using Johansen cointegration test. Determine the causal relationship between the variables, if any, using appropriate test.

Months	IIP	FDI
2018:08 (AUG)	127.4	2,432
2018:07 (JUL)	125.7	3,035
2018:06 (JUN)	127.5	2,974
2018:05 (MAY)	129.6	4,596
2018:04 (APR)	122.6	5,432
2018:03 (MAR)	140.3	3,214
2018:02 (FEB)	127.4	3,077
2018:01 (JAN)	132.3	2,314
2017:12 (DEC)	130.6	3,285
2017:11 (NOV)	125.8	1,553
2017:10 (OCT)	122.5	1,148
2017:09 (SEP)	123.1	2,031
2017:08 (AUG)	122.1	7,919
2017:07 (JUL)	118.0	4,742
2017:06 (JUN)	119.3	3,032
2017:05 (MAY)	124.8	3,974
2017:04 (APR)	117.3	3,142
2017:03 (MAR)	133.2	2,950
2017:02 (FEB)	119.2	1,712
2017:01 (JAN)	123.1	4,478
2016:12 (DEC)	121.7	3,006
2016:11 (NOV)	115.9	4,336
2016:10 (OCT)	120.3	5,854
2016:09 (SEP)	118.2	5,133

3+4+3

- (d) The following borrowers taken MUDRA Loan under the scheme of Pradhan Mantri Mudra Yojana (PMMY) from a Commercial Bank of Rs. 2,00,000 each after participating a skill development training program and started their business. After one year of taking credit the relationship manager conducted a survey relating to the economic upliftment of the rural borrowers and they found the following data-



Borrowers	Annual Income	
	Before taking Loan	After taking Loan
1	30000	28000
2	45000	58000
3	54250	65200
4	34000	48000
5	78000	75000
6	58974	69400
7	45698	56200
8	65489	78000
9	56987	62000
10	45698	55000
11	45200	47500
12	65420	57800
13	85210	98000
14	98540	88762
15	75310	94400
16	32890	46800
17	62100	75000
18	56230	68900
19	48200	72400
20	55600	64200

- (i) Calculate the Average annual income of the borrowers before and after taking the loan. Also calculate the standard deviation of the income level of the borrowers.
- (ii) Test the effectiveness of PMMY on the economic development of the selected borrowers. 4+6

**[ Viva-Voce : 5 Marks ]**