K23P 0516

Reg. No. : .....

Name : .....

II Semester M.Com. Degree (C.B.S.S. – Reg./Supple./Imp.) Examination, April 2023
(2019 Admission Onwards)
COM 2C07 : RESEARCH METHODOLOGY AND COMPUTER APPLICATIONS

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part **(a)**, **3** marks for Part **(b)** and **5** marks for Part **(c)**.

1. a) Define 'Social Science Research'.
   b) The standard deviation of two samples of sizes 10 and 14 from two normal populations are 3.5 and 3 respectively. Examine whether the standard deviations of the populations are equal.
   c) Distinguish between Qualitative Research and Quantitative Research.
2. a) State any two distinctions between the Null Hypothesis and the Alternative Hypothesis.
   b) State the purpose of the Literature Review in Research.
   c) What must be the requisites for a good Research Report ? Explain.
3. a) What are 'Extraneous Variables' ?
   b) Discuss the scope of conducting experiments in social science research with an example.
   c) "Researchers often comment that Schedules are more advantageous over Questionnaires". Do you agree ? Evaluate.
4. a) Define 'Research Design'.
   b) List out the important components of a Research proposal.
   c) Distinguish between the Census method and the Sample survey method of sampling.

P.T.O.

5. a) What are 'Cloned Journals' ?

   b) "Recently Research ethics has been mandated by UGC in all institutions". Why ?

   c) Distinguish between Primary Data and Secondary data sources.

6. a) What is meant by 'Snowball Sampling' ?

   b) What precautions need to be taken while using secondary data ?

   c) Define 'Hypothesis'. Narrate the steps in formulating a Research Hypothesis.

(4×9=36)

SECTION – B

Answer **any two** questions in this Section. **Each** question carries **12** marks.

7. a) How do you construct a good questionnaire, keeping in mind its good qualities ? Elaborate on this by drafting a questionnaire for the topic : "*Impact of Celebrity Endorsement on purchase behaviour of consumers in Kannur District*".

OR

   b) Given the following data relating to social status and state of intelligence. Test whether intelligence is related to social status.

	Dull	Average	Brilliant	Total
Lower Middle	22	35	23	80
Middle	38	70	32	140
Upper Middle	60	20	20	100
Total	**120**	**125**	**75**	**320**

8. a) "Today researchers have been facing various challenges and opportunities in the name of research". Do you agree ? Evaluate this statement. Examine the qualities needed for a good researcher.

OR

b) Below given are the yields (in Kgs) per acre for 5 trial plots of 4 varieties of treatments.

Treatments

Plot No.	I	II	III	IV
1	42	48	68	80
2	50	66	52	94
3	62	68	76	78
4	34	78	64	82
5	52	70	70	66

Carry out ANOVA and prove if all the treatments have the same effect.

(2×12=24)

K22P 0211

Reg. No. : .....

Name : .....

II Semester M.Com. Degree (C.B.S.S. – Reg./Supple./Imp.) Examination, April 2022
(2018 Admission Onwards)
COM2C07 : RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part **(a)**, **3** marks for Part **(b)** and **5** marks for Part **(c)**.

1. a) What is Exploratory Research ?
   b) What are the objectives of research ?
   c) Explain the characteristics of hypothesis.

2. a) What is a research problem ?
   b) Distinguish between applied and fundamental research.
   c) Explain the qualities of a good research report.

3. a) What are Type I and Type II errors ?
   b) Explain the characteristics of a good sample design.
   c) Describe the different methods of sampling.

4. a) What is a research hypothesis ?
   b) Distinguish between Questionnaire and Interview Schedule.
   c) Explain the three principles of experimental designs.

P.T.O.

5. a) What is a technical report ?

   b) How computers are useful for research ?

   c) Explain the applications of Chi-square test.

6. a) What is the basic principle of ANOVA ?

   b) What are the uses of SPSS in social science research ?

   c) In a diet survey the following results were obtained.

	District A	District B
Families taking tea	124	16
Families not taking tea	56	10

Is there any significant difference between the districts in the matter of tea taking ? **(4×9=36)**

SECTION – B

Answer the **two** questions in this Section. **Each** question carries **12** marks.

7. a) Explain the different methods of collecting primary data.

OR

   b) The following table presents the number of defective pieces produced by three workmen operating in turn on three different machines.

	Machine 1	Machine 2	Machine 3
Workman 1	27	34	23
Workman 2	29	32	25
Workman 3	22	30	22

Conduct a two-way ANOVA to test 5 percent level of significance, whether :

i) The differences among the means obtained for the three workmen can be attributed to chance.

ii) The differences among the means obtained for the three machines can be attributed to chance.

8. a) "Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps". Explain.

OR

b) An insurance company provides auto insurance and is analysing the data obtained from fatal crashes. A sample of the motor vehicle deaths is randomly selected for a two-year period. The number of fatalities is listed below for the different days of the week. At the .05 significance level, test the claim that accidents occur on different days with equal frequency.

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Number of Fatalities	31	20	20	22	22	29	36

(2×12=24)

K21P 0805

Reg. No. : .....

Name : .....

II Semester M.Com. Degree (CBSS – Reg./Suppl. (Including Mercy Chance)/Imp.) Examination, April 2021
(2014 Admission Onwards)
COM2C07 – RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part **(a)**, **3** marks for Part **(b)** and **5** marks for Part **(c)**.

1. a) What is a Research Problem ?
   b) Differentiate between Dependent and Independent Variable.
   c) "Empirical research in India in particular creates so many problems for the researchers". State the problems that are usually faced by such researchers.
2. a) What are Treatments ?
   b) Explain the three important principles of experimental designs.
   c) What are measures of dispersion ?
3. a) What is "Pantry audits" in data collection ?
   b) Differentiate between sample Survey Vs Census survey.
   c) Explain with any illustration the procedure of selecting a random sample.
4. a) What do you mean by "Field editing" ?
   b) Distinguish between Null hypothesis and Alternative hypothesis.
   c) The procedure of testing hypothesis requires a researcher to adopt several steps. Briefly discuss about such steps.

P.T.O.

5. a) What do you mean by parameter ?
   b) Explain the precaution in applying Chi-square test.
   c) Why sampling is used in practice ?

6. a) What is Kurtosis ?
   b) Explain Central Limit Theorem.
   c) Briefly explain about statistical estimation. **(4×9=36)**

SECTION – B

Answer the **two** questions in this Section. **Each** question carries **12** marks :

7. a) Analyse and interpret the following statistics concerning output of wheat per field obtained as a result of experiment conducted to test four varieties of wheat viz., A, B, C and D under a Latin Square Design.

C 25	B 23	A 20	D 20
A 19	D 19	C 21	B 18
B 19	A 14	D 17	C 20
D 17	C 20	B 21	A 15

   b) Two researchers adopted different sampling techniques while investigating the same group of customers to find the number of customers falling in different buying-intelligence levels.

Researchers	**Number of customers in each level**				**Total**
	Below average	**Average**	**Above average**	**Genius**	
1	86	60	44	10	200
2	40	33	25	2	100
Total	126	93	69	12	300

Are the two sampling techniques and buying intelligence significantly independent ? (Use $\alpha = 0.05$).

8. a) The table given below shows the data obtained during outbreak of smallpox :

	Attacked	**Not attacked**	**Total**
Vaccinated	31	469	500
Not vaccinated	185	1315	1500
Total	216	1784	2000

Test the effectiveness of vaccination in preventing the attack from smallpox. Test your result with the help of χ^2 at 5 percent level of significance.

b) Give your understanding of non-parametric or distribution free method explaining their important characteristics. **(2×12=24)**

K20P 0368

Reg. No. : .....

Name : .....

II Semester M.Com. Degree (CBSS – Reg./Suppl./Imp.) Examination, April 2020
(2014 Admission Onwards)
COM2C07 – RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part **(a)**, **3** marks for Part **(b)** and **5** marks for Part **(c)**. **(4×9=36)**

1. a) What is pilot survey ?
   b) What are the objectives of research ?
   c) Explain the various scale classification bases.
2. a) What is hypothesis ?
   b) State the components of research problem.
   c) Briefly explain the major steps involved in sampling design.
3. a) What is Sign Test ?
   b) What are the criteria for good research ?
   c) Explain any six types of research.
4. a) What is multistage sampling ?
   b) Differentiate between Type I and Type II error.
   c) Explain the characteristics of hypothesis.
5. a) What is sampling frame ?
   b) Write a short note on Latin square design.
   c) Briefly explain the layout of a research report.
6. a) What is Measures of Central Tendency ?
   b) Explain the procedures involved in developing Likert Scale.
   c) Write a short note on Holtzman Inkbolt Test.

P.T.O.

SECTION – B

Answer either **a**) or **b**) from **each** of the following. **Each** question carries **12** marks. **(2×12=24)**

7. a) Sample of sales in similar shops in two towns are taken for a new product with the following results :

Town	Mean sales	Variance	Size of sample
A	57	5.3	5
B	61	4.8	7

Is there any evidence of difference in sales in the two towns ? Use 5 per cent level of significance for testing this difference between the means of two samples.

OR

b) The meal plan selected by 200 students is shown below :

Class Standing	Number of meals per week			Total
	20/week	10/week	none	
Fresh	24	32	14	**70**
Sophomore	22	26	12	**60**
Junior	10	14	6	**30**
Senior	14	16	10	**40**
Total	**70**	**88**	**42**	**200**

Test "Class standing" is independent of "Number of Meals per Week".

8. a) Set up an analysis of variance table for the following per acre production data for three varieties of wheat, each grown on 4 plots and state if the variety differences are significant.

Per acre production data			
Plot of land	Variety of wheat		
	A	B	C
1	6	5	5
2	7	5	4
3	3	3	3
4	8	7	4

OR

b) Explain various phases in research process.

K19P 0316

Reg. No. : .....

Name : .....

II Semester M.Com. Degree (Reg./Suppl./Imp.) Examination, April 2019
(2014 Admission Onwards)
COM2C07 : RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** question in this Section. **Each** question carries **1** mark for Part (**a**), **3** marks for Part (**b**) and **5** marks for Part (**c**).

1. a) What is Depth Interview ?
   b) List out the various advantages of case study method.
   c) Explain the any three formal experimental design.

2. a) What is range ?
   b) What are the features of a good research design ?
   c) Distinguish between Surveys and Experiments.

3. a) Define sampling.
   b) Distinguish between systematic and stratified sampling.
   c) Explain the various steps in writing report.

4. a) What is point estimation ?
   b) Discuss the four types of measurement scales.
   c) What are the points to be taken care off by the researcher with regards to sampling design ?

5. a) What is data cleaning ?
   b) Explain the characteristics of hypothesis.
   c) Clearly explain difference between collection of data through questionnaires and schedule.

6. a) What is probability sample ?
   b) What is chi-square test ? Explain its significance in strategical analysis.
   c) What are the guiding consideration in the construction of questionnaire ? Explain.

P.T.O.

SECTION – B

Answer either **a** or **b** from **each** of the following. **Each** question carries **12** marks.

7. a) Memory capacity of 9 students was tested before and after training. State at 5 percent level of significance whether the training was effective from the following scores :

Student	1	2	3	4	5	6	7	8	9
Before	10	15	9	3	7	12	16	17	4
After	12	17	8	5	6	11	18	20	3

Use paired t-test.

b) Two research workers classified some people in income groups on the basis of sampling studies. Their results are as follows :

Investigators	**Income Groups**			**Total**
	Poor	**Middle**	**Rich**	
A	160	30	10	200
B	140	120	40	300
Total	**300**	**150**	**50**	**500**

Show that the sampling technique of at least one research worker is defective.

8. a) A simple random sampling survey in respect of monthly earnings of semi-skilled workers in two cities gives the following statistical information :

City	**Mean monthly earnings**	**Standard deviation of sample data of monthly earnings**	**Size of sample**
A	695	40	200
B	710	60	175

Test the hypothesis at 5 percent level that there is no difference between monthly earnings of workers in the two cities.

b) "Report writing is more an art that hinges upon practice and experience". Discuss.

K18P 0198

Reg. No. : .....

Name : .....

Second Semester M.Com. Degree (Regular/Supplementary/Improvement) Examination, March 2018

(2014 Admn. Onwards)

COM 2C07 : RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part **(a)**, **3** marks for Part **(b)** and **5** marks for Part **(c)**.

1. a) What is a Research Design ?
   b) Distinguish between exploratory study and descriptive study.
   c) Explain the qualities to be possessed by a good researcher.

2. a) What do you mean by sample design ?
   b) How would you differentiate between simple random sampling and complex random sampling designs ?
   c) Why probability sampling is generally preferred in comparison to non-probability sampling ? Explain the procedure of selecting a simple random sample.

3. a) What is Hypothesis ?
   b) What are the sources of Hypothesis ?
   c) Explain the characteristics of a good hypothesis.

4. a) Define Primary Data.
   b) Explain interview method. What are its advantages and disadvantages ?
   c) Explain the essentials of a good questionnaire.

5. a) What are non-parametric tests ?
   b) What is chi-square test ? Explain its uses.
   c) Explain the technique of analysis of variance in two way classification of data.

P.T.O.

6. a) What is a popular research report ?
   b) Explain the various steps in report writing.
   c) Explain the structure of the main text of a research report. **(4×9=36)**

SECTION – B

Answer **the two** questions in this Section. **Each** question carries **12** marks.

7. a) Below are given the yield [in kg] per acre for 5 trial plots of 4 varieties of treatment.

Plot No.	Treatment			
	I	II	III	IV
1	40	44	65	80
2	52	70	55	92
3	60	66	76	80
4	36	80	62	84
5	52	70	72	64

Carry out an analysis of variance [one way] and state your conclusions.

OR

b) A systematic sample of 100 pages was taken from the concise Oxford Dictionary and the observed frequency distribution of foreign words per page was found to be as follows :

No. of Foreign words per page (x) :	0	1	2	3	4	5	6
Frequency (f) :	50	23	14	7	4	1	1

Test whether the distribution confirms to Poisson distribution.

8. a) The following table gives the number of units produced per day by two workers A and B for a number of days :

A :	50	40	48	51	48	45		
B :	49	48	51	43	42	49	50	44

Should these results be accepted as evidence that the two workers are equally stable ? [Use F-test]

OR

b) What do you mean by Research ? Explain its significance. State various problems which a researcher has to face. **(2×12=24)**

K17P 0634

Reg. No. : .....

Name : .....

Second Semester M.Com. Degree (Reg./Suppl./Imp.) Examination, March 2017
(2014 Admn. Onwards)
COM2C07 – RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part (**a**), **3** marks for Part (**b**) and **5** marks for Part (**c**).

1. a) What do you mean by Research ?
   b) Distinguish between Research Method and Research Methodology.
   c) Explain the various problems which a researcher in India has to face.

2. a) What do you understand by case study method ?
   b) Explain the role of case study method in research.
   c) What are statistical methods ? How are they used in research ?

3. a) What is a research problem ?
   b) How does a researcher select his topic for research ?
   c) Explain the steps followed for defining a research problem.

4. a) What is meant by sampling ?
   b) Distinguish between census and sampling methods of collecting data.
   c) What is meant by stratified random sampling ? What are its advantages over systematic sampling ?

5. a) What do you understand by sampling distribution ?
   b) Distinguish between one tailed and two tailed tests.
   c) What are the assumptions in a student 't' test ? Explain the applications of 't' test.

6. a) What is a research report ?
   b) Explain the essentials of a good research report.
   c) Explain the structure of the main text of a report. **(4×9=36)**

P.T.O.

SECTION – B

Answer the **two** questions in this Section. **Each** question carries **12** marks.

7. a) Three varieties of crops X, Y, Z are tested in a randomnised block design with four replications. The yields are given below :

Variety	Replications				
	1	2	3	4	Total
X	8	6	10	8	32
Y	9	8	6	10	33
Z	10	7	8	12	37

Test whether there is difference between varieties. Also test whether yield of X differs significantly from that of Y.

OR

b) Given the following data relating to social status and state of intelligence. Test whether intelligence is related to social status.

	Dull	Average Intelligence	Brilliant	Total
Lower Middle	20	37	23	80
Middle	40	68	32	140
Upper Middle	60	20	20	100
Total	120	125	75	320

8. a) In a test given to two groups of students, the marks obtained were as follows :

Group I 20 25 38 50 49 38 36 49 46

Group II 30 28 30 36 32 46 50

Assuming that the group standard deviations are the same and that the marks normally distributed, test the hypothesis that the group means are equal.

OR

b) What is meant by a research process ? Explain the various phases in a research process. **(2×12=24)**

K16P 0449

Reg. No. : .....

Name : .....

Second Semester M.Com. Degree (Regular/Supplementary/Improvement) Examination, March 2016
Commerce (2014 – Admn. Onwards)
COM2C07 : RESEARCH METHODOLOGY AND COMPUTER APPLICATION

Time : 3 Hours Max. Marks : 60

***Instructions** : 1) In Section **A** : Answer **any 4** questions.*
*2) In Section **B** : Answer **any two** questions.*

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part (**a**), **3** marks for Part (**b**) and **5** marks for Part (**c**).

1. a) What is meant by Research ?
   b) Write a short note on deduction and induction.
   c) Discuss the different types of Research.

2. a) What do you mean by research problem ?
   b) What are the characteristics of a good research design ?
   c) Explain the different types of hypothesis.

3. a) What is meant by observation ?
   b) Differentiate between questionnaire and schedule.
   c) Briefly explain the tools used in data collection.

4. a) How parametric test is different from non parametric test ?
   b) Explain Type I and Type II error.
   c) What is a Chi-square test ? Mention its applications.

5. a) What are the commonly used computer software packages in research ?
   b) Discuss the role of computer in research.
   c) Explain the uses and application of SPSS.

P.T.O.

6. a) Define research report.

   b) What are the functions performed by a research report ?

   c) Discuss the different types of report. **(4×9 = 36 Marks)**

SECTION – B

Answer the **two** questions in this Section. **Each** question carries **12** marks.

7. a) Two random samples have been drawn from two normal populations.

   Sample 1 : 75 68 65 70 84 66 55

   Sample 2 : 42 44 56 52 46

   Test using variance ratio at 5% significance level whether the two populations have same variance (use F-test).

   OR

   b) A die is thrown 192 times with the following result.

Number turned up :	1	2	3	4	5	6
Frequency :	28	32	33	29	34	36

   Test at 10% significance level if the die is unbiased.

8. a) Discuss the different types of sampling method.

   OR

   b) Briefly explain the steps involved in research process.

(2×12 = 24 Marks)

M 27267

Reg. No. : .....

Name : .....

Second Semester M.A./M.Sc./M.Com. Degree (Regular/Supplementary/ Improvement) Examination, March 2015
COMMERCE (2014 Admn. Onwards)
COM 2C07 : Research Methodology and Computer Application

Time : 3 Hours Max. Marks : 60

Instructions: *In the Section* ***A****, Answer* ***any four*** *questions.*
In the Section ***B****, Answer* ***two*** *question.*

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part (**a**), **3** marks for Part (**b**) and **5** marks for Part (**c**).

1. a) What do you mean by research, research method and research methodology ?
   b) What are the characteristics of a research ?
   c) Write a short note on different methods of social research.

2. a) What is meant by case study ?
   b) What is the need for reviewing literature for research ?
   c) Briefly explain the different types of experimental design.

3. a) What is meant by observation ?
   b) What are the characteristics of a good sample ?
   c) Differentiate between questionnaire and schedule.

4. a) What is mean by null hypothesis ?
   b) Explain one tailed and two tailed test.
   c) State the various assumptions and uses of ANOVA.

5. a) What do you mean by spread sheet ?
   b) Briefly explain the uses of SPSS.
   c) Critically evaluate the role of computer in carrying out research.

P.T.O.

6. a) Distinguish between foot note and bibliography.

   b) What are the characteristics of a good report ?

   c) Discuss in detail the process of writing a research report. **(4×9=36)**

SECTION – B

Answer the **two** questions in this Section. **Each** question carries **12** marks.

7. a) The table given below shows the data obtained during outbreak of smallpox. Is the vaccination is effective ?

	Attacked	Not attacked	Total
Vaccinated	31	469	500
Not vaccinated	185	1315	1500
Total	216	1784	2000

Use x^2 test.

OR

b) Eight coins were tossed 256 times and the following results were obtained

Numbers of heads	0	1	2	3	4	5	6	7	8
Frequency	2	6	30	52	67	56	32	10	1

Are the coins biased ? Use x^2 test.

8. a) Explain the different types of research design.

OR

b) Three varieties of crops A, B, C are tested in a randomnised block design with four replication the yield are given below

Variety	Replications				Total
	1	2	3	4	
A	6	4	8	6	24
B	7	6	6	9	28
C	8	5	10	9	32

Test whether there is difference between varieties test also whether yield of A differs significantly from that of B. **(2×12=24)**