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value of chi-square at 5% level of significance for 6 d.f. is 12.592 :

Persons	Age Groups				Total
	Under 20	20-39	40-59	60 and over	
Liked the Movie	320	80	110	200	710
Disliked the movie	50	15	70	60	195
Indifferent	30	5	20	40	95
Total	400	100	200	300	1000

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Total No. of Questions : 4]

[Total No. of Printed Pages : 6

Course Code  
**PGCRSM – 02**

**Term End Examination – December, 2019**

QUALITATIVE AND QUANTITATIVE  
RESEARCH

Post Graduate Certificate in Research  
Methodology (PGCRSM)

Time : 3 hours

Full Marks : 100

The figures in the right-hand margin indicate marks

Answer **all** Groups as directed

Group—A

1. Answer *all* questions, each in 1 word :

1×10=10

- (a) State whether the term 'data' is plural or singular.
- (b) How many types of data there can be on the basis of sources utilized for their collection?
- (c) Reliability of data stands for 'trustworthiness' or 'predictability'.
- (d) State ideally whether 'population' is larger or 'universe' is larger in size.

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- (e) Broadly what are the two types of sampling?
- (f) Write the formula of calculating median in continuous series.
- (g) Write the formula of standard deviation in continuous series.
- (h) The value of correlation coefficient varies between \_\_\_\_ to \_\_\_\_\_. (Fill in the blanks)
- (i) How can you know whether a sample size is large or small?
- (j) State whether chi-square test is a parametric or non-parametric technique of hypothesis testing.

Group—B

2. Answer *any four* questions each within 100 words : 5×4=20

- (a) Explain how sampling is different from a census method of data collection.
- (b) Distinguish between validity and reliability of a research instrument.
- (c) What is focused group discussion? Explain.

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and the sales of motor tyres by a firm in that territory for the same period :

Years	1	2	3	4	5
Motor registration	600	630	720	750	800
No. of tyres sold	1250	1100	1300	1350	1500

Find the regression equation to estimate the sale of tyres when the motor registration is known. Estimate sale of tyres when registration is 850.

- (c) A movie producer is bringing out a new movie. In order to map out his advertising he wants to determine whether the movie will appeal most to a particular age group or whether it will appeal equally to all age groups. The producer takes a random sample from persons attending a pre-reviewing showing of the new movie and obtains the following result. Use chi-square test to derive the conclusion where the

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- (d) Differentiate between probability and non-probability methods of sampling.
- (e) Distinguish between primary and secondary data.
- (f) What is the difference between Type I and Type II errors?

Group—C

3. Answer *any four* questions each within 200 words :  $10 \times 4 = 40$

- (a) Explain the methods of primary data collection.
- (b) Write short notes of *any two* of the following :
  - (i) Likert Scale
  - (ii) Thurstone Scale
  - (iii) Semantic Differential Scale
- (c) Distinguish between sampling frame and sampling error.
- (d) Discuss about the probability methods of sampling.
- (e) Discuss about the non-probability methods of sampling.

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- (f) Write short notes on *any two* of the following :
  - (i) Interview Method
  - (ii) The Case Study Method
  - (iii) Content Analysis.

Group—D

4. Answer *any two* questions each within 300 words :  $15 \times 2 = 30$

- (a) The ages of twenty husbands and wives are given below. Calculate the arithmetic mean and standard deviation of each of the groups and find out which series of data are more dispersed :

Age (X)	20-25	25-30	30-35	35-40	40-45	45-50
Group-1 : No. of Husbands (F)	3	5	2	6	2	2

Age (X)	20-25	25-30	30-35	35-40	40-45	45-50
Group-2 No. of wives (F)	5	5	4	3	2	1

- (b) The following table shows the number of motor registrations in a certain territory for a term of years