

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024
(Second Semester)

Branch - COSTUME DESIGN AND FASHION

RESEARCH METHODOLOGY AND STATISTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	_____ is the non-probability sampling method. a) Simple random sampling b) snowball sampling c) cluster sampling d) stratified sampling	K1	CO1
	2	The research design used to study cause-and-effect relationships is _____. a) Cross-sectional study b) Longitudinal stud c) Experimental study d) Descriptive study	K2	CO1
2	3	_____ is an example of a continuous variable. a) Gender b) Marital status c) Age d) Educational level	K1	CO2
	4	The best measure of dispersion is _____. a) range b) quartile deviation c) mean deviation d) standard deviation	K2	CO2
3	5	In the regression line Y on X the variable X is known as _____. a) dependent variable b) independent variable c) coefficient d) response variable	K1	CO3
	6	If the correlation coefficient value is 0 then the variables are _____. a) uncorrelated b) positively correlated c) negatively correlated d) dependent	K2	CO3
4	7	A paired t-test contains 10 observations in each group then the degrees of freedom is _____. a) 21 b) 19 c) 18 d) 20	K1	CO4
	8	The large sample test is applicable if _____. a) n>30 b) n<30 c) n<25 d) n=25	K2	CO4
5	9	Analysis of variance utilizes _____. a) χ^2 test b) F- test c) t-test d) z- test	K1	CO5
	10	The degrees of freedom for χ^2 in case of dichotomised frequencies are _____. a) 4 b) 2 c) 1 d) 0	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain quantitative and qualitative research.	K3	CO1
	(OR)			
	11.b.	Explain different types of scaling measurements with an example.		

Cont...

2	12.a.	List out the merits and demerits of arithmetic mean.	K4	CO2																
	(OR)																			
	12.b.	Obtain the mean and mode for the given data Marks: 20 30 40 50 60 70 No of Students: 8 12 20 10 6 4																		
3	13.a.	State the properties of regression coefficient.	K3	COC3																
	(OR)																			
	13.b.	Explain Spearman's rank correlation.																		
4	14.a.	Discuss the procedures in testing of hypothesis.	K3	CO4																
	(OR)																			
	14.b.	The NCHS report indicates that in 2002 the prevalence of cigarette smoking among American adults was 21.1% .Data on prevalent smoking in n=3536 participants who attend the seventh examination of the Offspring in the Framingham Heart Study indicates that 482 of the respondents were currently smoking at the time of the exam. Examine whether there is any significance difference between NCHS report and the sample.																		
5	15.a.	The following results were obtained when two sets of items were subjected to two different treatments X and Y to enhance their tensile strength. Find that the treatment X and Y are significantly different given($\chi^2_{(0.05,1)}=3.84$). <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Treatment</th> <th>Gained</th> <th>not Gained</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>80</td> <td>320</td> <td>400</td> </tr> <tr> <td>Y</td> <td>20</td> <td>380</td> <td>400</td> </tr> <tr> <td>Total</td> <td>100</td> <td>700</td> <td>800</td> </tr> </tbody> </table>	Treatment	Gained	not Gained	Total	X	80	320	400	Y	20	380	400	Total	100	700	800	K4	CO5
	Treatment	Gained	not Gained	Total																
X	80	320	400																	
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Total	100	700	800																	
(OR)																				
	15.b.	Explain One way ANOVA.																		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain different methods of collecting data.	K4	CO1
2	17	Explain absolute and relative measures of dispersion.	K4	CO2
3	18	Two ladies were asked to rank 7 different types of lipsticks. The ranks are given bellow: Lipstick: A B C D E F G A : 2 1 4 3 5 7 6 B : 1 3 2 4 5 6 7 calculate Spearman's rank correlation coefficient.	K5	CO3
4	19	Two types of drugs were used on 5 and 7 patients for reducing their weights. Is there any significant difference in the efficacy of the two drugs? Given($t_{0.05,10}=2.223$) Drug A : 10 12 13 11 14 Drug B : 8 9 12 14 15 10 9	K5	CO4
5	20	Define non parametric test. Explain the procedure of Mann Whitney U test.	K4	CO5