



**NAVVRACHANA
UNIVERSITY**
a UGC recognized University

School: School of Business and Law
Program/s: BBA
Year: 2nd **Semester:** 3rd
Examination: End Semester Examination
Examination year: December - 2021

Course Code: MA142 **Course Name:** Qunatitative Techniques-II

Date: 07/12/2021

Time: 11:30 am to 1:30 pm

Total Marks: 40

Total Pages: 2

Instructions:

- Write each answer on a new page.
- Use of a calculator is simple permitted
- Students are allowed to use their own probability distribution tables provided there is no marking/scribbling on the table
- Direct answers will not fetch any marks, step by step solution to each question is mandatory
- Kindly attempt all the questions in the order mentioned in question paper
- All questions are compulsory
- * COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details	Marks	COs*	BTL#
Q.1	The probability of getting right answer to a given question is 0.3. If it follows binomial distribution, find the following probability if you attempt 8 questions.	4	CO 6 CO 7	BT2, BT3
	a. Probability of getting right answer to one question	(1)		
	b. Probability of getting right answer to seven questions	(1)		
	c. Probability of getting right answer to atleast five questions	(1)		
	d. Probability of getting right answer to atmost three questions	(1)		
Q.2	The average number of accidents outside the busiest mall in the city every 10 minutes is 2. It is a rare event, find the probability of :	4	CO 6	BT2, BT3
	a. More than 2 accidents in 10 minutes	(1)		
	b. Only 1 accident in 10 minutes	(1)		
	c. 2 accidents in half hour	(1)		
	d. Atleast 2 accidenrs in 20 minutes	(1)		
Q.3	A survey was conducted for 50 students to understand the following variables:	4	CO 2	BT2,
	i. Marks in class XII			
	ii. Stream of study in Class XII			
	iii. Rank in school in Class XII			
	iv. Age of student on completing Class XII			
	Comment on the type of data and scale of measurement for both the above variables			
Q.4	Compare the dispersion in the pens manufactured by two manufacturers A and B in terms of length of pen. Which of the two manufacturers have greater uniformity in their production?	4	CO 4 CO 7	BT2 BT3 BT4

Manufacturer A		Manufacturer B	
Length of Pen (cm)	No. of pens	Length of Pen(cm)	No. of pens
10-12	30	10-12	50
12-14	10	12-14	10
14-16	10	14-16	10
16-18	20	16-18	5
18-20	10	18-20	5

- Q.5** The probability of qualifying in entrance test for admission to good MBA program is 0.6 and the probability of qualifying the interview for admission to good MBA program is 0.4. If you have qualified the entrance test, then the probability of qualifying interview is 0.7. Find the following
- a. Probability of qualifying entrance test and interview (2)
- b. Probability of qualifying entrance test if you have already qualified interview (2)

4 CO 5 BT2,
CO 7 BT3
BT4

- Q.6** For the following data regarding number of people visiting shopping mall in two months, find:

4 CO 4 BT2,
CO 7 BT3

Number of people	No. of days
500-700	5
700-900	0
900-1100	10
1100-1300	20
1300-1500	25

- a. Mean number of people (2)
- b. Median number of people (2)

- Q.7** Solve the following questions:
- a. The mid-points of classes in a frequency distribution are 39.5, 49.5, ..., 79.5. Construct classes with Inclusive class limits (2)
- b. You are required to prepare frequency distribution of 100 observations starting from 200 till 780. Find the ideal number of classes as per statistical formula and class width (2)

4 CO 3
BT2,
BT3

- Q.8** Solve the following questions

4 CO 5 BT2,
CO 6 BT3

- a. $P(A) = 0.4$, $P(B) = 0.5$, Find the probability that atleast of one of the two events occur if the probability of both the events occurring is 0.3 (2)
- b. Find the standard deviation of normal distribution with mean 800 and 17% of the observations greater than 1000. (2)

- Q.9** The price of a stock is normally normally distributed with average price of Rs. 600 and standard deviation of Rs. 150. Find the probability that price of the stock is:

8 CO 6 BT2,
BT3
CO 7 BT4

- a. Greater than Rs.800 (2)
- b. Between Rs.500 and Rs.700 (2)
- c. Less than Rs.900 (2)
- d. Between Rs.300 and Rs.450 (2)

*****End of Question Paper*****