

Roll No. ....

**12004**

**M.B.A. 2 Yr. 1st Sem. (CBCS)**

**Examination- December, 2016**

**Quantitative Analysis**

**Paper-16IMG21C4**

**Time : 3 hours**

**Max. Marks : 80**

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

**Note :** Section-A is **compulsory**. Attempt **one** question from each unit in Section-B. All questions carry equal marks.

**Section-A**

1. (a) Can the values of mean, mode and median be the same? If yes, state the situation.

12004-2650-(P-7)(Q-9)(16)

(1)

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(b) What is a scatter diagram and how is it useful in the study of correlation?

(c) What is trend?

(d) Define skewness.

(e) What is rank correlation? State its merits.

(f) "A correlation coefficient  $r = 0.8$  indicates a relationship twice as close to  $r = 0.4$ " Comment.

(g) What is regression?

(h) The management of hotel has employed 5 cooks and 10 waiters. The monthly salaries of a cook and a waiter are ₹3,000 and ₹2,500 respectively. Find mean salary of the employees.

12004-2650-(P-7)(Q-9)(16) (2)

## Section-B

### Unit-I

2. The following are the marks obtained in mathematics by 20 students in an examination:

85, 30, 80, 75, 55, 50, 20, 75, 95, 40, 25, 20, 90, 15, 40, 95, 50, 70, 15, 75

Calculate Mean, Mode and Median of the data.

3. From the table given below where the marks of seven students out of 100 have been given:

Student:	1	2	3	4	5	6	7
Marks in English:	30	40	60	70	20	60	74
Marks in Maths:	60	76	80	70	65	72	74

12004-2650-(P-7)(Q-9)(16) (3)

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Determine in which subject the variation is more.

### Unit-II

4. For the data given below :

**X:** 57 58 59 60 61 62 63 64  
**Y:** 77 78 75 78 82 82 79 81

- (a) Calculate the coefficient of correlation between variables X and Y.  
 (b) Drive Regression line Y on X.

5. The table below gives the observed values of Y corresponding to the given values of X.

Variable X: 21 24 27 29 30 32 35 38 40 43  
 Variable Y: 21 23 25 26 27 28 30 32 33 35

- (a) Find the coefficient of correlation between X and Y.

- (b) Find the equation of regression line of Y on X and calculate the value of Y when  $X = 46$ .

### Unit-III

6. (a) State and prove the theorems of probability.

- (b) Taking suitable example, explain the Baye's theorem.

7. It is given that 2% of the screws manufactured by a company are defective. Use Poisson distribution to find the probability that a packet of 100 screws contains

- (i) no defective  
 (ii) one defective and  
 (iii) two or more defectives.

**Unit-IV**

8. Two hundred randomly selected adults were asked whether TV shows as a whole are primarily entertaining, educational or a waste of time (only one answer could be chosen). The respondents were categorized by gender. Their responses are given in the following table.

**Opinion**

<b>Gender</b>	<b>Entertaining</b>	<b>Educational</b>	<b>Waste of Time</b>
Female	52	28	30
Male	28	12	50

Is this evidence convincing that there is a difference in opinion between genders ?

9. The following table gives the number of refrigerators sold by 4 salesmen in three months May, June and July :

12004-2650-(P-7)(Q-9)(16) (6)

12004-2650-(P-7)(Q-9)(16) (7)

**Salesman**

<b>Month</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
May	50	40	48	39
June	46	48	50	45
July	39	44	40	39

Is there a significant difference in the sales made by the four salesmen? Is there a significant difference in the sales made during different months?