

INSTITUTE OF MANAGEMENT STUDIES,  
DEVI AHILYA VISHWAVIDHYALAYA, INDORE  
M.B.A- EXECUTIVE -SEMESTER -1<sup>st</sup>  
QUANTITIES METHODS

**ASSIGNMENT – I**

**Q1.** What is the role of Statistics in the business and economy ? Discuss with suitable examples?

**Q2.** What are the different components of time series ? Explain with live examples.

**Q3 .** Of the members of 3 athletics team in a certain college, 21 are in basket ball team, 26 in hockey team , and 29 in football team. 14 play hockey and basket ball, 15 play hockey and football, 12 play football and basketball and 8 play all the 3 games. How many members are there in all ?

**Q4.** Solve the following equations by Matrix Method :

$$2x - z = -4, \quad x + 2y + 3z = 0, \quad 2x + 2y - z = -2$$

**Q5.** Find the correlation Coefficient between the 2 variables and also the 2 regression equations:

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

**ASSIGNMENT – II**

**Q6.** Assuming the probability of a male birth as 0.5 . Find the probability that a family of 3 children will have (i) atleast 1 girl , (ii) 2 boys and 1 girl , (iii) At the most 2 girls

**Q7.** Solve by crammers rule :  $x - y + z = 4$  ,  $2x + y - 3z = 0$  ,  $x + y + z = 2$

**Q8 .** An airlines company has the policy of employing people having height between 62 and 69 inches. If the height is Normally distributed with a mean of 64 inches and a standard deviation of 3 inches, out of 1000 applicants find the no. of applicants that would be

(i)too tall, (ii)too short, (iii) of acceptable height.

**Q9.** The median and mode of the distribution is Rs. 33.5 and Rs. 34 respectively. Find the missing frequencies ?

Wages	0-10	10-20	20-30	30-40	40-50	50-60	60-70	Total
-------	------	-------	-------	-------	-------	-------	-------	-------

<b>Frequencies</b>	<b>4</b>	<b>16</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	<b>6</b>	<b>4</b>	<b>230</b>
--------------------	----------	-----------	----------	----------	----------	----------	----------	------------

Also find the mean for it?

**Q10.** Following information about sales and advertising is given .

	<b>Advertising expenditure (X)in lakhs of RS.</b>	<b>Sales (Y) in lakhs of Rs.</b>
<b>Mean</b>	<b>10</b>	<b>90</b>
<b>Standard Deviation</b>	<b>3</b>	<b>12</b>

**Correlation Coefficient = 0.80**

- (i) Calculate the 2 regression equations
- (ii) Find the likely sales when advertisement expenditure is Rs. 15 lakhs
- (iii) What should be the advertisement expenditure if the company wants to attain a sales target of Rs. 120 lakhs ?