VCD - | 8-3-14 - FYBAF – SEM II – QUANTITATIVE METHODS – 60 – 2 HOURS - 220

All the questions are compulsory:

Q 1. Objectives:-

A. Fill in the blanks

(1 mark each)

1. The point at which there is no profit & no loss is called _____.
   a. Balancing Point
   b. Equilibrium Point
   c. Breakeven Point
   d. Turning Point

2. The money paid for the use of sum of money taken as loan is known as _____.
   a. Principal
   b. Compound Interest
   c. Borrowings
   d. Interest

3. The present value is always _____ than future value.
   a. More than
   b. Less than
   c. Equal to
   d. Independent of

4. _____ is the fund that is created to accumulate a specific sum of money at some definite date in future by paying regular & equal payments
   a. Sinking fund
   b. General fund
   c. Debenture redemption reserve
   d. Investment fund

5. An annuity in which each payment is made at the end of year is called _____.
   a. Annuity due
   b. Annuity certain
   c. Immediate annuity
   d. Uniform annuity

6. Square root of variance is _____.
   a. Mean
   b. Coefficient of correlation
   c. Median
   d. Standard deviation

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7. Range is difference between _____ and _____
   a. Positive, Negative Value
   b. Mean, Median
   c. Highest Value, Lowest Value
   d. Correlation, Standard Deviation

8. The measure of entire arc or angle in a pie diagram is _____
   a. 180^0
   b. 360^0
   c. 90^0
   d. 100^0

9. At equilibrium point _____ and _____ are equal.
   a. Profit, Loss
   b. Demand, Supply
   c. Revenue, Cost
   d. Income, Expenses

10. Index number for base year is always _____.
   a. 100
   b. Infinite
   c. Zero
   d. 22/7 or 3.14

B. Match the Following:- (1 Mark Each)

1. Sources Of Data	1. Discounting
2. Standard Deviation	2. Accumulated Value
3. Present Value	3. Secondary Data
4. Arithmetic Mean	4. Capable of further algebric treatment
5. Future Value	5. Affected by extreme values.

Q 2.

A) If 'y' is the quantity and 'x' is the price of commodity, the demand and supply curves are given by linear equations $2x + y - 600 = 0$ & $5x - y - 100 = 0$ respectively. Find the equilibrium price and equilibrium quantity. (5 Marks)

B) A sum of Rs.60,00,000 is invested at 16% p.a. for a year. Find the maturity amount, if the interest is compounded i) Half yearly ii) Quarterly (5 Marks)

C) Ms. Rukmini Shetty plans to save for her daughters higher studies. She wants to accumulate amount of Rs.1,00,000 at the end of 4 years. How much should she invest at the end of each year from now, if she can get interest compounded at 7% p.a. (5 Marks)

OR

P) A workshop produces toy cars. The total cost function is give by C = 2000 + 50x, where **'C'** is the total cost of producing **'x'** toy cars. The total revenue **'R'** is given by R = 100x. Find the point at which the workshop will have break even. (5 Marks)

Q) Pitale industries buys a machine for Rs.2,00,000. It is estimated that after 4 years the company will have to discard the machine and its scarp value will be Rs.25,000. The cost of new machine at that time is estimated to be 25% higher than now at Rs.2,50,000. The company decides to create sinking fund by investing a fix amount at the end of every year in an instrument giving interest compounded at 8% p.a. What amount of money should it provide for each year? (5 Marks)

R) Find the present value of Rs.40,00,000 required for 4 years from now if the compound interest rate is 5%. (5 Marks)

Q 3.

A) Calculate median and 67^{th} percentile of the following: (8 Marks)

Weight in (Kgs)	No of Persons
50-55	8
55-60	10
60-65	25
65-70	35
70-75	15
75-80	7
Total	100

B) Calculate quartile deviation for the following data: (7 Marks)

Life in Hours	No of Tubes
600-800	20
800-1000	60
1000-1200	80
1200-1400	30
1400-1600	10
Total	200

OR

P) Calculate mean deviation from mode for the following data:- (8 Marks)

Height (cms)	No of Boys
150-154	10
154-158	20
158-162	15
162-166	30
166-170	15
170-174	10

Q) Find missing frequency given that arithmetic mean of advertising expenditure is Rs. 5625 (7 Marks)

Advertising Exp (Rs.)	No of Companies
2000-3000	10
3000-4000	15
4000-5000	30
5000-6000	-
6000-7000	65
7000-8000	25

Q 4.

A) Draw sub-divided bar diagram for the following data:- (7 Marks)

Year	Imports (Rs.)	Exports(Rs.)
1994-95	17000	11000
1995-96	19000	12000
1996-97	20000	15000
1997-98	22000	16000

B) Calculate Laspeyre's, Paasche's & Fisher's ideal price index number for the following information:- (8 Marks)

	1995		1996	
Commodities	Price	Quantity	Price	Quantity
A	12	25	15	28
B	10	20	15	25
C	4	15	6	12
D	6	20	9	15

OR

P) what is stastistics & what is importance of statistics? (8 Marks)

Q) Draw a frequency polygon for following data (7 Marks)

Height (Cms)	150-154	154-158	158-162	162-165	165-169
No of Childrens	10	12	20	10	8