

**F.Y.B.COM. SEM – I (2014 Course) : WINTER - 2018**

**SUBJECT: BUSINESS MATHEMATICS & BUSINESS STATISTICS - I**

Day: Wednesday  
Date: 17/10/2018

**W-2018-0326**

Time: 12.00 NOON TO 02.00 PM  
Max. Marks: 40

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat labeled diagrams **WHEREVER** necessary.
- 4) Use of logarithmic table and pocket **CALCULATOR** is allowed.

**Q.1** Attempt any **TWO** of the following: **(10)**

- a) Write a procedure of stratified Random Sampling with suitable illustration.
- b) Answer the question given below using following frequency distribution:

Weight in lb	80-90	90-99	100-109	110-119	120- 129	130-139	140-149
Frequency	8	16	20	26	50	13	5

- i) state type of classification
  - ii) Class boundary of 3<sup>rd</sup> class.
  - iii) Number of candidates having weight between 100 lb and 130 lb.
  - iv) Class width of any class
  - v) Class mark of 2<sup>nd</sup> class.
- c) Draw histogram for the following frequency distribution.

Salary	10-20	20-30	30-40	40-50	50-60
Frequency	16	32	22	14	5

- d) Find the mode and median for the following frequency distribution.

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	4	16	13	20	7	5

**Q.2** Attempt any **TWO** of the following: **(10)**

- a) Define Index number also state uses of it.
- b) Marks obtained by 12 students are given below:  
30, 55, 50, 40, 50, 60, 55, 62, 55, 45, 61, 65  
Calculate mean, median and mode.
- c) With the help of following data calculate Laspeyre's and Paasches price Index Number:

Commodity	Year 2006		Year 2010	
	Price	Quantity	Price	Quantity
A	250	50	480	56
B	250	100	220	120
C	200	60	360	80
D	310	30	268	28
E	350	40	420	35

**P. T. O.**

**Q.3** Attempt any **TWO** of the following: **(10)**

- a) Explain different types of shares.
- b) Sachin, Babu and Chandu enter into a partnership by putting in Rs. 3600/-, Rs. 2400/- and Rs. 2000/- respectively and agreeing to share profit in capital ratio. In case of the net profit of Rs. 2000/-, what would be the profit of each partner?
- c) i) Find the value of  $y$  in the following proportion:  
 $91 : 52 :: 77 : y$ .  
ii) If 30 articles cost Rs. 316, find the cost of 75 articles.
- d) The sum of present ages of 3 persons is 83 years. Five years ago their ages were in the ratio 4 : 6 : 7. Find the present ages.

**Q.4** Attempt any **TWO** of the following: **(10)**

- a) i) Find LCM and HCF of 40, 60 and 80.  
ii) Two numbers are in the ratio 4 : 3 and their product is 300. Find the numbers.
- b) An article is sold for Rs. 52,500/- at a loss of 15%. For how much should it have been sold to earn a profit of 15%?
- c) A sold a car to B at 20% profit, B sold the car to C at 10% profit for Rs. 1,80,400/- . Find the price at which A has purchased the car.

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