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V Semester B.C.A. Degree Examination, February/March - 2024

## COMPUTER SCIENCE

## Quantitative Techniques (Theory)

(NEP Scheme 2021)

Time : 2½ Hours

Maximum Marks : 60

*Instructions to Candidates:*

Answer All the sections.

## SECTION - A

I. Answer any Four questions.

(4×2=8)

1. Find the HCF of 513, 1134 and 1215 by division method.
2. A train travels for 6 hours at 90 km/h find the distance.
3. From a point P on a level ground, the angle of elevation of the top tower is 60°. If the tower is 180 m high, find the distance of point P from the foot of the tower?
4. Define qualitative and quantitative data.
5. Name the four basic requirements of teaching.
6. What is research ethics?

## SECTION - B

II. Answer any Four questions.

(4×5=20)

7. The cost of 4 bags and 3 boxes is Rs. 555 and the cost of 3 bags and 4 boxes is Rs. 460. What is the cost of one bag?
8. Find the cube root of 571787.
9. The banker's gain on a bill due in 4 months discounted to 15% is Rs. 720. Find TD, BD and face value of bill.
10. If 4 men and 6 women can complete it in 10 days. In how many days will 10 women complete it?
11. Explain the factors affecting the teaching.
12. Write a note on evaluation system.

[P.T.O.]



## SECTION - C

III. Write any Four questions.

(4×8=32)

13. a) If  $8^x \cdot 2^y = 512$  and  $3^{3x+2y} = 9^6$  then what is the value of x and y.  
b) Three years ago, the age of father was 7 times that of his son. Three years hence the father's age would be four times that of his son. What are the present ages of father and his son.
14. a) A person travels from a place P to Q at the speed of 40 km/h and return at a speed of 10 km/h. What is the average speed of the person for the whole journey.  
b) Draw a pie chart for the following data.

Item of expenditure	Amount spent (in rupees)
Food	3750
Health	1875
Clothing	1875
Education	1200

15. a) Draw the bar graphs for the population of two states over the years given below

Year	Population in lakhs	
	A	B
2001	48	50
2002	58	63
2003	60	60
2004	65	45
2005	49	70
2006	68	80
2007	80	100

- b) The top of a 25 meter high tower makes an angle of elevation of 45 degree with the bottom of an electric pole and angle of elevation of 30 degree with the top of pole. Find the height of the electric pole.
16. a) Find the difference between simple and compound interest on Rs. 3,000 in 3 years at 4% p.a.  
b) The ratio of the students in arts, science and commerce faculties is 5:4:3. If the number of students in science faculty is 236. Find the number of students in Arts and commerce faculties.
17. a) Explain the types of teaching aid. How it plays a major role in effective teaching.  
b) Briefly explain the different types of research.
18. a) Briefly explain the types of communication.  
b) Write a note on  
i. Seminar.  
ii. Workshop.  
iii. Symposium.