QP CODE: 19102542

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Reg No : .....

Name : .....

BA DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Fifth Semester

Core Course - EC5CRT07 - QUANTITATIVE TECHNIQUES

B.A Economics Model I,B.A Economics Model II Foreign Trade,B.A Economics Model II Insurance

2017 Admission Onwards

719298FA

Maximum Marks: 80 Time: 3 Hours

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Define Constants
2. Explain degree of Equations
3. Explain the concept of Net Present Value
4. Explain Natural Numbers
5. Find the higher order derivatives of

   Y = 6x4+3x3-4x2-x+10
6. Find A U B when A= {2,3,4,5} and B = {3,5,7,9,11}
7. Define ordered pair
8. Give example of a row matrix of order 1* 4 and column matrix of order 3*1
9. Define determinant. Is $\begin{vmatrix} 2 & 3 & 1 \\ 4 & 3 & 2 \end{vmatrix}$ a determinant. If yes, find the determinant. If no, why?
10. Define the subjective approach of probability
11. State the addition theorem of probability.
12. From a pack of 52 cards, two cards are drawn at random in succession without replacement. Find the probability that first card is a king and second card is a queen?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Briefly explain the properties of Exponents
14. What is Geometric Progression ? Explain how the 15th term can be calculated.
15. Differentiate y=x(1+x2)

16. Examine the following functions for its maxima or minima and determine its value C = 2x2-12x+40

17. If Qd = 140-4p. Draw a demand curve for the firm's demand function along with a demand schedule.

18. Show that $\begin{bmatrix} 3 & 4 \\ 2 & 3 \end{bmatrix} * \begin{bmatrix} 3 & -4 \\ -2 & 3 \end{bmatrix}$ gives a unit matrix

19. Define inverse of a matrix. Find the inverse of A= $\begin{bmatrix} 5 & 3 \\ 4 & 7 \end{bmatrix}$

20. Explain the term random experiments with suitable examples

21. State the properties of normal distribution

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. What is meant by differentiation. State the important rules of differentiation.

23. A radio manufacturer produces x sets per week at a total cost of Rs.x^2+78x+2500.The demand function is 8x=600-p where p is the price per unit. When is the net revenue maximium.What is the price per set then?

24. Solve the system of equation : 12 x- 16 y+20z = -24 , 4x+4y-8z = -4 and 8x+12y +4z = 20

25. Five hundred families each having 4 children were taken as sample. If the probability of a child having boy is 0.5, in how many families would yoy expect to have (i) exactly one boy (ii) exactly two girls

(2×15=30)