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Register Number:

5766

Name of the Candidate:

B.B.A. DEGREE EXAMINATION, May 2015

(APPLIED MANAGEMENT)

(FIRST YEAR)

(PART-III)

150: MATHEMATICS

Time: Three hours

Maximum: 100 marks

SECTION-A

(10×2=20)

Answer any TEN questions

1. Define Universal set and Empty set with examples.
2. Find the equation of the line that has slope $m = 4$ and passes through the point $(-1,6)$.
3. $A = \begin{bmatrix} 3 & 4 \\ 2 & 1 \end{bmatrix}$ $B = \begin{bmatrix} 1 & 2 \\ 5 & 7 \end{bmatrix}$
Find i) $A+B$ ii) $A \times B$
4. What does the term Simple Interest and Compound Interest mean?
5. Define Mean, Median and Mode.
6. Find Mean Deviation from Mean for the following data 1,2,3,5,7,10
7. Define Data. What are the types of data?
8. Mention some advantages of Linear Programming.
9. Briefly explain Least Cost Method.
10. What is Preceding and Succeeding Activity? Define Dummy Activity.
11. Define Critical Activity and Lead Time.
12. What is Rank Correlation?

SECTION-B

(4×10=40)

Answer any FOUR questions

13. a) Define set, subset, universal set, Empty set along with examples.
b) Find the equation of a straight line that passes through the points $(-3,5)$ and $(2,1)$
14. If $A = \begin{bmatrix} 1 & 2 & 1 \\ 5 & 2 & 3 \\ 1 & 2 & 2 \end{bmatrix}$, verify $A(\text{Adj } A) = (\text{adj } A)a = |A|I$
Where I is the unit matrix of order 3
15. Define data and its types. Briefly explain the objectives and types of classification of data.

16. Solve the L.P.P Graphically and Identify the feasible region

Maximize $Z = 4X_1 + 5X_2$

Subject to

$$2X_1 + 3X_2 \leq 8$$

$$X_1 + 4X_2 \leq 10$$

$$X_1, X_2 \geq 0$$

17. Explain the steps involved in finding the basic feasible solution for a transportation problem using Least Cost method and VAM.
18. a) Explain in detail the steps involved in drawing network diagram
 b) Construct a network diagram for the below relationship.

Activity	A	B	C	D	E	F	G	H	I	J	K
Predecessor	-	-	-	A	B	B	C	D	E	H	I, F, G

SECTION-C

Answer any TWO questions

(2×20=40)

19. State and prove the three basic laws of the binary operation of set union and intersection.
20. a) Explain the types of matrices.

b) If $A + 2B = \begin{bmatrix} 1 & 2 & 0 \\ 6 & -3 & 3 \\ -5 & 3 & 1 \end{bmatrix}$ and $2A - B = \begin{bmatrix} 2 & -1 & 5 \\ 2 & -1 & 6 \\ 0 & 1 & 2 \end{bmatrix}$ then find A and B.

21. Find Mean, Median Mode and Standard Deviation for the following data

Marks of Students	20-30	30-40	40-50	50-60	60-70	70-80
No of students	10	5	20	30	15	25

- 21.

Products \ plants	plants				
	1	2	3	4	
1	3	6	5	2	40
2	4	5	6	4	50
3	3	4	4	4	30
	50	30	40	20	

Obtain optimal feasible solution for the above transportation problem.
