VCD 24/04/16 FYBFM SEM II BS MARKS 75 2HRS30MIN

FYBFM - SEM II ATKT (old) Marks : 75

Note: - 1) All questions are compulsory and carry equal marks.

2) Figures to right indicate full marks to corresponding sub question.

3) Use of simple calculator is allowed.

Q.1) Formulate LPP and solve it graphically. (15)

A company produces two type of presentation goods A & B that require gold and silver .Each unit of type A requires 3gm of silver and 1gm of gold while B requires 1 gm of silver and 2gm of gold . The availability of silver and gold is 9gm and 8tgm respectively . if profit per unit of A is Rs40 and that of B is Rs 50,determine the number of units of A and B that should be produced to maximize the profit.

OR

Q.1) The members of an institution are daily fed with 2 food items A and B to Maintain their health. The nutritional requirement to each individual & the nutrient contents of each food item are given . the problem is to determine the combination of unit of A and B per person at minimum cost, when per unit cost of A & B are given (solve graphically) **(15)**

	Food A	Food B	Minimum daily requirement
Calcium	5	2	10
Protein	10	10	40
Calories	1	3	6
Price per unit (Rs)	2		

Q.2) Calculate compound interest of the sum of Rs40000 @ 10% per annum for a period of 1 year, when compounded: i) Half yearly ii) Quarterly iii) Monthly Given : $(1.00833)^{12} = 1.10466$) (15)

OR

Q.2) a) The simple interest at 12 % per annum, on a certain sum of money for years is Rs 96000. Find the compound interest on the sum at the same rate for the same period . (7)

b) A sum of Rs 5000 is invested in a fixed deposit giving 8% per annum compound interest. Find the interest received in 4th year. (8)

Q.3) Determine the critical path and critical time from the data given below **(15)**

Activity		a	B	m
1-2	A	5	10	8
1-3	B	18	22	20
1-4	C	26	40	33
2-5	D	16	20	18
2-6	E	15	25	20
3-6	F	6	12	9
4-7	G	7	12	10
5-7	H	7	9	8
6-7	I	3	5	4

OR

Q.3) Write short notes (any three)

1) Rule for forward calculation in CPM
2) Rules for backward calculation in CPM
3) Non-negativity constaints in LPP
4) Systematic Sampling

Q.4) Draw the network diagram for the data given below :

Acivity	Duratin (Weeks)
1-2	7
2-3	7
3-4	2
3-5	7
4-6	4
3-7	5
5-7	7
6-7	7
7-8	2

Determine :

a) Critical path
b) ES
c) LS
d) EF
e) LF

OR

Q.4) Explain statistics . What are the features of statistics? Explain

Q.5) Write short notes (any three)

1) Errors in hypothesis testing
2)Stratified sampling
3) Cluster sampling
4) Advantages of sampling