FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

Roll No. | | | | | | | | | | | | |

Total No. of Pages : 04

Total No. of Questions : 17

MBA (2018 Batch) (Sem.–1)

QUANTITATIVE TECHNIQUES

Subject Code : MBA-103-18

M.Code : 75404

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A contains EIGHT questions carrying TWO marks each and students has to attempt ALL questions.**
2. **SECTION-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying EIGHT marks each and student has to attempt any ONE question from each Subsection.**
3. **SECTION-C is COMPULSORY carrying TWELVE marks.**

SECTION-A

1. Define Statistics.
2. Define Mean.
3. Define Pearson's Correlation Coefficient.
4. What is probability?
5. What is Binomial Distribution?
6. Define Game Theory.
7. Define PERT.
8. What is Linear Programming?

www.FirstRanker.com

SECTION-B

UNIT-I

9. From the following data find the value of median :

Income (Rs.)	5,000	5,500	6,800	8,000	8,500	7,800
No. of persons	24	26	16	20	6	30

www.FirstRanker.com

FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

10. From the prices of shares of X and Y below, find out which is more stable in value :

X	35	54	52	53	56	58	52	50	51	49
Y	108	107	105	105	106	107	104	103	104	101

UNIT-II

11. Calculate Karl Pearson's coefficient of correlation from the following data and interpret its value :

Roll No.	1	2	3	4	5
Marks in Science	48	36	18	23	47
Marks in Mathematics	43	20	40	25	45

12. Discuss various approaches to calculate probability.

UNIT-III

13 Explain Normal Distribution and its applications.

14. Use Simplex Method to solve the following L.P.P.:

Max. $Z = 5x_1 + 8x_2$ Subject to the constraints:

$2x_1 + x_2 \leq 48$. $2x_1 + 5x_2 \leq 100$. $2x_1 + 3x_2 \leq 80$; $x_1 \geq 0$ and $x_2 \geq 0$

UNIT-IV

15. Find the basic feasible solution by at least three different methods for the following transportation problem :

From / To	**A**	**B**	**C**	**D**	**Availability**
F_1	10	7	3	6	3
F_2	1	6	7	3	5
F_3	7	4	5	6	7
Demand	3	2	6	4	

16. Four jobs 1,2,3 and 4 are to be processed on each of the five machines A, B, C, D and E in the ABCDE order. Find the total elapsed time if no passing jobs is permitted.

		Machines				
		A	**B**	**C**	**D**	**E**
Jobs	**1**	7	5	2	3	9
	2	6	6	4	5	10
	3	5	4	5	6	8
	4	8	3	3	2	6

www.FirstRanker.com

www.FirstRanker.com

FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

SECTION-C

17. Solve the case study attached :

The equivalent of a new kindergarten class is born every day at Orlando's Arnold Palmer Hospital. With more than 13,000 births in the mid-2000s in a hospital that was designed 15 years earlier for a capacity of 6,500 births a year, the newborn intensive care unit was stretched to the limit. Moreover, with continuing strong population growth in central Florida, the hospital was often full. It was clear that new facilities were needed. After much analysis, forecasting and discussion, the management team decided to build a new 273- bed building across the street from the existing hospital. But the facility had to be built in accordance with the hospital's Guiding Principles and its uniqueness as a health center dedicated to the specialized needs of women and infants. Those Guiding Principles are: Family-centered focus, a healing environment, where privacy and dignity are respected, sanctuary of caring that includes warm, serene surroundings with natural lighting, sincere and dedicated staff providing the highest quality care and patient-centered flaw and function.

The vice president of business development. Karl Hodges, wanted a hospital that was designed from the inside out by the people who understood the Guiding Principles who knew most about the current system and who were going to use the new system, namely, the doctors and nurses. Hodges and his staff spent 13 months discussing expansion needs with this group, as well as with patients and the community, before developing a proposal for the new facility. An administrative team created 35 user groups, which held over 1,000 planning meetings (lasting from 45minutes to a whole day). They even created a "Supreme Courts" to deal with conflicting views on the multifaceted issues facing the new hospital.

Funding are regulatory issues added substantial complexity to this major expansion and Hodges was very concerned that the project stay on time and within budget. Tom Hyatt, director of facility development, was given the task of onsite manager of the $100 million project, in addition to overseeing ongoing renovations, expansions, and other projects. The activities in the multi-year project for the new building at Arnold Palmer are shown in Table 3.7.

www.FirstRanker.com

Discussion Questions

1. Develop the network for planning and construction of the new hospital at Arnold Palmer.

2. What is the critical path and how long is the project expected to take?

3. Why is the contraction of this 11-story building any more complex than construction of an equivalent office building?

4. What percent of the whole project duration was spent in planning that occurred prior to the proposal and reviews? "Prior to the actual building construction". Why?

www.FirstRanker.com

FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

Table 3.7 Expansion Planning and Arnold Palmer Hospital Construction Activities and Times*

	Activity	Scheduled Time	Precedence Activity
1.	Proposal and review	1 month	–
2.	Establish master schedule	2 weeks	1
3.	Architect Selection Process	5 weeks	1
4.	Survey whole campus and its needs	1 month	1
5.	Conceptual architect's plans	6 weeks	3
6.	Cost estimating	2 months	2,4,5
7.	Deliver plans to board for consideration/decision	1 month	6
8.	Surveys/regulatory review	6 weeks	6
9.	Construction manager selection	9 weeks	6
10.	State review of need for more hospital beds ("Certificate of Need")	3.5 months	7,8
11.	Design drawings	4 months	10
12.	Construction documents	5 months	9,11
13.	Site preparations/demolish existing building	9 weeks	11
14.	Construction start/building pad	2 months	12,13
15.	Relocate utilities	6 weeks	12
16.	Deep foundations	2 months	14
17.	Building structure in place	9 months	16
18.	Exterior skin/roofing	4 months	17
19.	Interior buildout	12 months	17
20.	Building inspections	5 weeks	15,19
21.	Occupancy	1 month	20

www.FirstRanker.com

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

www.FirstRanker.com