S.D.E.

M.B.A. (IT) SEM – V (2010 COURSE) (3 YEAR COURSE) :
WINTER - 2017
SUBJECT: MANAGEMENT SCIENCE AND DECISION TECHNOLOGIES

Day: Saturday
Date: 16/12/2017

Time: 10.00 A.M. TO 1.00 P.M.
Max. Marks: 70

W-2017-4365

N.B:

1) Attempt **ANY FOUR** questions from Section-I and **ANY TWO** questions from Section-II.
2) Figures to the right indicate **FULL** marks.
3) Answer to both the sections should be written in the **SEPARATE** answer book.

SECTION-I

Q.1 "Systems Approach is an important characteristic of Operation Research". Discuss. **(10)**

Q.2 Evening shift resident doctors in a government hospital work five consecutive days and have two consecutive days off. Their five days of work can start on any day of the week and the schedule rotates indefinitely the hospital requires the following minimum number of doctors working. **(10)**

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
35	55	60	50	60	50	45

No more than 40 doctors can start five working days on the same day. Formulate this problem as an LPP model to minimize the number of doctors employed by the hospital.

Q.3 Determine an initial feasible solution for the following Transportation problem. **(10)**

DESTINATION

	D_1	D_2	D_3	D_4	Supply
A	11	13	17	14	250
B	16	18	14	10	300
C	21	24	13	10	400
Demand	200	225	275	250	

Q.4 Discuss the difference between decision making under certainty, uncertainty and risk. **(10)**

Q.5 Write short notes on: **(10)**

a) Assignment problem

b) Management science Technology

P.T.O.

SECTION-II

Q.6 Discuss the field of application for queuing theory. Explain queue discipline and its various forms. **(15)**

Q.7 Define Simulation why is simulation used? Give application area when this technique is used in practice. **(15)**

Q.8 An architect had been awarded a contract to prepare plans for an urban renewal project. The job consists of the following activities and their estimated times. **(15)**

Activity	Immediate Predecessors	Time (days)
A	-	2
B	-	1
C	A	3
D	A,B	2
E	C,D	1
F	B,D	3
G	E,F	1

a) Draw the network diagram of activities for the project.

b) Indicate the critical path, and calculate the total float and free float for each activity.

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