QP Code:109380 (Old Scheme) **Reg. No.:……..**

First Year MHA Degree Supplementary Examinations, September 2014

(2010 Scheme)

PAPER VI – OPERATIONS RESEARCH

Time: 3 Hours **Max Marks: 100**

- **Answer all the questions**
- ***Draw diagrams wherever necessary***

Essays: **(2x20=40)**

1. Solve the following sequencing problem giving an optimal solution when passing not allowed

Machine	Job				
	A	B	C	D	E
M1	11	13	9	16	17
M2	4	3	5	2	6
M3	6	7	5	8	4
M4	15	8	13	9	11

2. An automobile service centre has three similar service points each of which can service an average of 5/hr. An average of 10 automobile arrives per hour at the service centre. The arrival is Poisson and service is exponentially distributed. Determine expected number of automobile in system, expected time spent by an automobile waiting for service, expected time of an automobile spent in system

Short Essays: **(2x10=20)**

3. Solve the following assignment problem

	I	II	III	IV	V
A	10	5	13	15	16
B	3	9	18	13	6
C	10	7	2	2	2
D	7	11	9	7	12
E	7	9	10	4	12

4. Using the concept of dominance, solve the following game

		Player B				
		I	II	III	IV	V
Player A	I	3	5	4	9	6
	II	5	6	3	7	8
	III	8	7	9	8	7
	IV	4	2	8	5	3

Short notes: **(8x5=40)**

5. Explain the methods of inventory control
6. Explain Monte - Carlo simulation
7. Explain the difference between CPM and PERT
8. Indicate the algorithm for processing n jobs through three machines.
9. Brief out the evolution of operations research
10. Solve the following transportation problem

	D1	D2	D3	S
S1	8	5	6	120
S2	15	10	12	180
S3	3	9	10	80
D	150	80	50	

11. Explain group replacement
12. Explain EOL , EVPI and EMV.

****