

Roll No.

Total No. of Pages : 02

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B.Tech. (Ind. Engg. & Mgt.) (Spl. in TQM) (Sem.-3)

OPERATIONS MANAGEMENT

Subject Code : IEM-301

M.Code : 61011

Time : 3 Hrs.

Max. Marks : 40

INSTRUCTIONS TO CANDIDATES :

1. Attempt All EIGHT questions from SECTION-A carrying TWO marks each.
2. Attempt any SIX questions out of EIGHT from SECTION-B carrying FOUR marks each.

SECTION-A

Q1. Answer briefly :

- a) Explain the functions of operations management.
- b) Discuss the centre of gravity method of facilities location.
- c) What are the advantages of computer packages in plant layout?
- d) "Material Handling is considered necessary evil" Comment.
- e) Explain "Delphi Technique of Forecasting".
- f) Differentiate between design capacity, system capacity and installed capacity.
- g) Define MRP, CRP and BOM.
- h) What do you understand by dispatching and reporting?

SECTION-B

Q2. Differentiate between batch, job and continuous production systems.

Q3. Explain the factors that influence the location of sugar industries. Justify your answer.

- Q4. Differentiate in brief between product, process, group technology and fixed position layout.
- Q5. State for what applications the following material handling equipments are used :
- a) Fork lift truck
 - b) Jib crane
 - c) Belt conveyor
 - d) Roller conveyor
- Q6. The following data relates the cost of production and sales prices :

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------|------|------|------|------|------|------|------|------|------|
| Costs | 203 | 216 | 223 | 239 | 248 | 253 | 279 | 301 | 311 |
| Prices | 225 | 242 | 250 | 271 | 275 | 277 | 295 | 318 | 329 |

Establish the co-efficient of correlation between costs and prices.

- Q7. Discuss in detail the use of decision tree for capacity planning.
- Q8. Elaborate the following :
- a) ERP
 - b) Master production schedule
- Q9. Five jobs are to be processed on two machines M_1 and M_2 in the order M_1M_2 . Processing times in hours are given below :

| Job | Processing times (hrs) | |
|-----|------------------------|---------------|
| | Machine M_1 | Machine M_2 |
| 1 | 5 | 2 |
| 2 | 1 | 6 |
| 3 | 9 | 7 |
| 4 | 3 | 8 |
| 5 | 10 | 4 |

Determine the sequence that minimizes total elapsed time. Find out the total elapsed time and idle time (if any) on M_2 .

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.