OM

Registration No.:

Course: MBA
Sub_Code: 18MBA401D

4th Semester Regular/Back Examination: 2024-25
SUBJECT: MANAGEMENT OF MANUFACTURING SYSTEM
BRANCH(S): BA, FM, FM&HRM, GM, HRM, IB, MBA, MM
Time: 3 Hours
Max Marks: 100
Q.Code: S055
Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1 **Answer the following questions:** (2 x 10)
a) How production is different from manufacturing.
b) Differentiate between pull and push concept of Kanban.
c) State the advantages of cellular manufacturing.
d) Outline the benefits of flexible manufacturing system.
e) State the prime rationale behind manufacturing process planning.
f) Outline the basic concept of Kanban system.
g) Differentiate between process layout and product layout.
h) What is production flow analysis?
i) Define CONWIP.
j) What purpose Gantt chart solves?

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** (6 x 8)
a) Describe the conceptual framework of Flexible Manufacturing System.
b) Explain the various tools and techniques used for layout planning and analysis.
c) State the qualitative analysis in cellular manufacturing.
d) Explain the basic principles of JIT, highlighting the elements of JIT.
e) Enumerate the types of Kanban system.
f) State the design and improvement aspects of JIT.
g) Briefly explain the concept of "control based on theory of constraints".
h) How can minimization of inter-cell movement be achieved in a cellular manufacturing system?
i) Explain the process mapping in work environment.
j) Outline the constraints in manufacturing system.
k) Explain the DBR Methodology.
l) State the requirements for a smooth operation planning.

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)   (16 x 2)

Q3   Enumerate the scope for FMS in the world of manufacturing today? State the Types and composition.   **(16)**

Q4   "Good plant layout not only optimizes the space utilization but reduces material handling cost ". Elaborate the statement explaining essential of good plant layout and factors which are needed to be considered while adopting a particular type of layout.   **(16)**

Q5   Outline the key principles in scheduling. Explain the scheduling procedure and the Factors affecting scheduling.   **(16)**

Q6   Define process mapping. What are the generic building blocks of process mapping? With a flow chart explain process mapping in work environment.   **(16)**

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Course: MBA
Sub_Code: 18MBA402D

4th Semester Regular/Back Examination: 2024-25
SUBJECT: Sourcing Management
BRANCH(S): BA, FM, FM&HRM, GM, HRM, IB, MBA, MM
Time: 3 Hours
Max Marks: 100
Q.Code: S159
Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1 **Answer the following questions:** (2 x 10)
a) What is unsystematic risk in risk management?
b) What do you mean by Supplier Score card?
c) What do you mean by sourcing Risk?
d) What do you mean by Routine Vendor?
e) Explain the concept of milk run.
f) Give an example of single price break model in quantity discount model.
g) What are the challenges of global sourcing?
h) What are the three main skills required for successful global sourcing?
i) What do you mean by win-win negotiation.
j) Explain the term Triangle Talk.

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** (6 x 8)
a) Explain how and when the negotiator can effectively use e negotiation technique.
b) Discuss the concept of BATNA and explain how a negotiator can effectively use it to plan a negotiation.
c) Why does consultant typically want to avoid including detailed outcomes in their contracts? Is this ethical.
d) Why India is emerging as an outsourcing hub? Explain how it is a win-win situation to both outsourcing and outsourced parties.
e) What is outsourcing? Explain how it helps in growth and completeness in business.
f) Explain the role of E-sourcing in modern era.
g) How to managing risk in international business?
h) Explain the methods of vendor rating.
i) Write short notes on green sourcing.
j) What are the factors affecting supply management's role in managing supplier quality?
k) Why does the learning curve apply mainly to direct rather than indirect labor?
l) Explain benefits of long-term contract.

Part-III
Only Long Answer Type Questions (Answer Any Two out of Four)   (16 x 2)

Q3   Why do organizations commit the resources and time to evaluate suppliers before making a supplier selection decision?   **(16)**

Q4   Discuss in detail vendor selection process with suitable example.   **(16)**

Q5   Briefly explain reasons and roadblocks in outsourcing.   **(16)**

Q6   **a)**   Discuss the different types of supplier development and support that a firm can offer. Which are the most common? Why?   **(8 x 2)**

   b)   What are the most important reasons for pursuing worldwide sourcing today?

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Course: MBA
Sub_Code: 18MBA403D

4th Semester Regular/Back Examination: 2024-25
SUBJECT: Operations Research Applications
BRANCH(S): BA, FM, FM&HRM, GM, HRM, IB, MBA, MM
Time: 3 Hours
Max Marks: 100
Q.Code: S222
Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1   **Answer the following questions:**   (2 x 10)
   a)   Explain the term State variable.
   b)   Write mathematical model of transportation problem.
   c)   What do you mean by Capacitated Vehicle Routing Problem
   d)   Write Kendal and Lee notation of Queuing Model.
   e)   What are the three types of queuing system?
   f)   What are the components of queuing system?
   g)   Write standard form of Quadratic programming?
   h)   How quadratic programming does differs from LPP?
   i)   What is vehicle routing problem? Why is it important
   j)   What is best fit bin packing?

Part-II

Q2   **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)**   (6 x 8)
   a)   What are the techniques used in Operations Research? Explain.
   b)   What is operations research? Describe its characteristics.
   c)   Write the characteristics of dynamic programming.
   d)   Explain computational procedure for the solution of all integer programming problem by Gomory method.
   e)   What are the Solutions for Solving Vehicle Routing Problems?
   f)   Discuss the cutting-plane algorithm for solving integer programming problems.
   g)   Describe basic features of dynamic Programming.
   h)   What are the factors affecting portfolio optimization?
   i)   Explain advantages of branch bound method.
   j)   Using Dynamic programming, Determine the value of U1, U2, and U3 so as to Max Z = U1.U2.U3
       Subject to constraints U1 + U2 + U3 = 10
       U1, U2, U3 ≥ 0

k) A T.V repairman repair the sets in the order in which they arrive and expects that the time required to repair a set has an ED with mean 30 mins. The sets arrive in a Poisson fashion at an average rate of 10/8 hours a day.

    I.   What is the expected idle time / day for the repairman?

    II. How many TV sets will be there awaiting for the repair?

l) A company has three production facilities S1, S2, and S3 with production capacity of 7, 9, and 18 units (in 100s) per week of a product, respectively. These units are to be shipped to four warehouses D1, D2, D3, and D4 with requirement of 5, 8, 7, and 14 units (in 100s) per week, respectively. The transportation costs (in rupees) per unit between factories to warehouses are given in the table below: Formulate this transportation problem as an LP model to minimize the total transportation cost.

	D1	D2	D3	D4	Supply
S1	19	30	50	10	7
S2	70	30	40	60	9
S3	40	8	70	20	18
Demand	5	8	7	14	34

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)   **(16 x 2)**

Q3   What are the phases of operations Research method?   **(16)**

Q4   Use branch and bound technique to solve the following problem   **(16)**

Max $Z = 7X_1 + 9X_2$

S.C $-X_1 + 3X_2 \leq 6$

        $7X_1 + X_2 \leq 35$

        $0 \leq X_1, X_2 \leq 7$

        X_1 and X_2 are integer

Q5   A vessel is to be loaded with stocks of 3 items. Each unit of item (i) has a weight (w_i) and   **(16)** value (r_i).The maximum cargo weight of the vessel can take is 5 and the details of the three items are as follows:

I	1	2	3
Wi	1	3	2
ri	30	80	65

Develop the recursive equation for the above case and find the most valuable cargo load without exceeding the maximum cargo weight by using dynamic programming.

Q6 **a)**   What is quadratic Programming? Explain Wolf's method in solving it.   **(8 x 2)**

    b)   The processing time and due dates for 5 jobs A, B, C, D, and E are given in the table below:

Job	A	B	C	D	E
Processing Time(days)	20	18	16	22	17
Due date (days from Now)	28	32	37	27	52

Sequences these jobs according to EDD rule and calculate
(I) Total completion time (II) Total flow time (III) Average Flow Time
(IV) Average number of jobs in the system (V) Average job lateness.