Registration No.: | | | | | | | | | | |

Total Number of Pages: 02

Course: MBA
Sub_Code: 18MBA401D

4th Semester Regular/Back Examination: 2023-24
SUBJECT: Management of Manufacturing System
BRANCH(S): BA, FM, FM&HRM, GM, HRM, MBA, MM,
Time: 3 Hour
Max Marks: 100
Q.Code: P278

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) Differentiate between single card and two card Kanban system.
b) What do you understand by machine loading?
c) Why Gantt chart is used?
d) Define standard time for an operation.
e) State the advantages of cellular manufacturing.
f) Define Drum- Buffer- Rope (DBR)...
g) How process layout is different from product layout?
h) What is production flow analysis?
i) Define CONWIP.
j) Differentiate between production and manufacturing.

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 × 8)**

a) Discuss the requirements for a good manufacturing and assembly line layout.
b) What are the different types of layouts? How should an organisation decide on, which layout to choose?
c) State the qualitative analysis in cellular manufacturing.
d) Explain the basic principles of JIT, highlighting the elements of JIT.
e) Explain the various tools and techniques used for layout planning and analysis.
f) Briefly explain the concept of "control based on theory of constraints".
g) Describe the conceptual framework of Flexible Manufacturing System.
h) How can minimization of inter-cell movement be achieved in a cellular manufacturing system?
i) Draw a comparison with Kanban system and CONWIP.
j) Enumerate the constraints in manufacturing system.
k) Discuss the objectives of plant layout.
l) State the requirements for a smooth operation planning.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 What is the scope for FMS in manufacturing today? State the types and composition of FMS. **(16)**

Q4 State the basic principles in scheduling. Discuss the scheduling procedure and the factors affecting scheduling. **(16)**

Q5 'Production Planning and Control is the key to the success of a business organisation'. Discuss the statement listing the various functions carried out under production planning & control and their purpose in brief. **(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: 2023-24
SUBJECT: Sourcing Management
BRANCH(S): BA, FM, FM&HRM, GM, HRM, MBA, MM,
Time: 3 Hour
Max Marks: 100
Q.Code: P211

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) What type of risks taken by purchase manager?
b) Who is responsible for vendor management?
c) Explain the term odd and prestige pricing.
d) Explain the term sealed bid pricing and negotiated pricing.
e) Explain the term ESPD and SLA in tendering.
f) What is the e – procurement tools?
g) Write disadvantages of out sourcing.
h) What does a 100% learning curve mean?
i) Explain different types of learning curve.
j) What do you mean by total cost of ownership?

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 × 8)**

a) Write the difference between sourcing and procurement.
b) Write the steps to evaluate supplier's efficiency.
c) Explain vendor management with advantages.
d) What type of challenges faced in vendor management?
e) Write the barriers to negotiation. Explain.
f) Briefly explain different types of sourcing method.
g) What do you mean by global sourcing? Explain benefits of global sourcing.
h) Explain the concept of green sourcing and also explain its uses.
i) Explain the purpose of quantity discount analysis?
j) Briefly explain risk management Process.
k) What are the reasons to manage vendor performance?
l) Why must organizations develop suppliers? Is supplier development a long term trend or just a fad? Explain.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3		Explain about vendor rating in detail with giving suitable example.	**(16)**
Q4		What are the steps involved in tender process. Explain.	**(16)**
Q5		Explain analytical tools for sourcing and explain advantages of analytical tools used in sourcing.	**(16)**
Q6	**a)**	Discuss the process of negotiation.	**(8x2)**
	b)	What do you mean by negotiation? Explain nature and characteristics' of negotiation by giving examples.	

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Total Number of Pages: 02

Course: MBA
Sub_Code: 18MBA403D

4th Semester Regular/Back Examination: 2023-24
SUBJECT: Operations Research Applications
BRANCH(S): BA, FM, FM&HRM, GM, HRM, MBA, MM,
Time: 3 Hour
Max Marks: 100
Q.Code: P119

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) Write any two limitations of Operations Research.
b) What are Bellman's principles of optimality?
c) What do you mean by Pure and Mixed Integer Programming?
d) What is the difference between LPP and IPP?
e) What do you mean by traffic intensity? How to calculate traffic intensity?
f) How is quadratic programming used in the real world?
g) What is the standard form of quadratic programming?
h) What is the best method of portfolio optimization?
i) What is automated bin packing?
j) What is an optimal solution for bin packing?

Part-II

Q2 **Only Focused-Short Answer Type Questions - (Answer Any Eight out of Twelve)** **(6 × 8)**

a) What is Operations Research? Why is it important?
b) Explain characteristics of dynamic problem.
c) Traffic to a message switching center for one of the outgoing communication lines arrive in a random pattern at an average rate of 240 messages per minute. The line has a transmission rate of 800 characters per second. The message length distribution (including control characters) is approximately exponential with an average length of 176 characters. Calculate
   (I) Average number of messages in the system
   (II) Average number of messages in the queue waiting to be transmitted.
   (III) Average time a message spends in the system.
   (IV) Average time a message waits for transmission
d) Briefly explain Beale's algorithm for quadratic programming problem.

e) Find transpiration cost using North west corner Method:

Storehouse→ Company↓	A	B	C	D	Supply
1	12	16	14	9	100
2	10	8	11	11	200
3	13	15	14	10	350
Demand	150	250	400	150	

f) What are the steps involved in Cutting plane algorithm?

g) What do you mean by IPP? Explain its applications.

h) Briefly explain Branch Bound Algorithm.

i) Explain benefits of vehicle routing problem.

j) What are the different ways to solve vehicle routing problem? Explain.

k) What is a travelling salesman problem? What are the major challenges of travelling salesman problem

l) Briefly explain applications of travelling salesman problem.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 Describe different techniques of Operations Research. **(16)**

Q4 Solve the following IPP by cutting plane method: **(16)**

Max Z = X + Y

Subject to Constraint: $3X + 2Y \leq 5$

$Y \leq 2$

$X\ Y \geq 0$ and are integer.

Q5 What is vehicle routing problem? Explain different types of vehicle routing problem. **(16)**

Q6 **a)** Consider the set of 6 processors whose arrival time and burst time are given below: **(8x2)**

Processor ID	A	B	C	D	E	F
Arrival time(min)	0	1	2	3	4	5
Brust time(min)	7	5	3	1	2	2

If the CPU scheduling policy is shortest remaining time first, calculate the average waiting time and average turnaround time.

b) Use dynamic programming to solve the following LPP:

Max Z= 3X+5Y

S.C, $X \leq 4$, $Y \leq 6$, $3X + 2Y \leq 18$, and $X, Y \geq 0$