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Registration No :

Total Number of Pages : 02

Course: MBA
Sub_Code: 18MBA403D

4TH Semester Regular / Back Examination: 2022-23
SUBJECT: Operations Research Application
BRANCH(S): MBA,RM,BA,GM
Time : 3 Hour
Max Marks : 100
Q.Code : M338

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) Define a pure integer programming problem.
b) Which method is commonly used to solve Quadratic programming Problem?
c) Where is Branch and Bound method used?
d) What are the advantages of dynamic programming?
e) What are the methods used in solving integer programming problem?
f) Differentiate between top down and the bottom up approach. Give a real life example of Vehicle routing problem.
g) Write mathematical model of transportation problem.
h) What are the different types of vehicle routing problem?
i) Where vehicle routing problem is used?
j) Explain the term Balking and Reneging in queuing.

Part-II

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

a) What do you mean by scheduling system? Explain different types of scheduling system.
b) Explain Non primitive priority scheduling with giving advantages and disadvantages.
c) What do you mean by Vehicle routing problem? Explain its types.
d) What are the different ways to solve Vehicle routing problem?
e) What do you mean by portfolio optimization? Explain the process of optimal portfolio.
f) A branch of Punjab National bank has only one typist. Since the typing work varies in length, the type rate is randomly distributed approximately a poisson distribution with mean service rate of 8 letters per hour. The letters arrive at a rate of 5 per hour during the entire 8 hours work day. If the type writer is valued at Rs.1.50 per hour. Determine Equipment utilization, the percent time that an arriving letter has to wait, Average system time and average cost due to waiting on the part of typewriter i.e it remaining idle.

g) **Find out total transportation cost using Northwest corner rule:**

Storehouse→ Company↓	A	B	C	Supply
P	12	15	19	200
Q	10	14	18	300
R	11	19	22	400
Demand	100	550	250	900

h) What are the variants involved in vehicle routing problem? Explain.

i) Explain the steps of Wolfe's method for solving quadratic programming problem.

j) State and explain Kuhn-Tucker condition.

k) What do you mean by initial basic feasible solution? How to find out initial basic feasible solution using Northwest corner rule giving suitable example.

l) Briefly explain elements of Queuing system?

Part-III

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

Q3 What are the different types of models used in operation research? Explain. **(16)**

Q4 What are the tools and techniques used in operations research? Explain. **(16)**

Q5 The profit for the three markets as a function of sales effort expended, is given in the table below. How will you distribute a given number os salesmen, so as to achieve maximum profit (Using Dynamic Programming) **(16)**

No of sales Man	0	1	2	3	4	5	6	7
Market1.	40	42	50	60	66	75	82	90
Market2	50	60	65	75	85	95	110	120
Market3	50	60	70	80	88	105	115	130

Q6 Find an optimum integer solution to the following LPP **(16)**

Max $Z = X = 2Y$

Subject to constraint: $X + Y \leq 7$

$2Y \leq 7$

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

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Registration No :

Total Number of Pages:

Course: MBA
Sub_Code: 18MBA401D

4th Semester Regular / Back Examination,2023
SUBJECT : MANAGEMENT OF MANUFACTURING SYSTEM
BRANCH(S): MBA,RM,BA,GM
Time: 3 Hour
Max Marks : 100
Q.Code: M558

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) Outline the basic concept of Kanban system.
b) What do you understand by Assembly line?
c) Differentiate between pull and push concept of Kanban.
d) Outline the benefits of flexible manufacturing system.
e) What is production flow analysis?
f) State the advantages of JIT production system.
g) What purpose Gantt chart solves?
h) What do you understand by machine loading?
i) Differentiate between production and manufacturing.
j) What is understood by machine loading?

Part-II

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

a) Discuss the factors which affect the productivity of a manufacturing system.
b) Elucidate the DBR Methodology.
c) State the qualitative analysis in cellular manufacturing.
d) Discuss the requirements of good manufacturing and assembly lines.
e) What is the role of demand management in Assemble- to -order environment?
f) Explain the process mapping in work environment.
g) Outline the framework of Flexible Manufacturing System.
h) Enumerate the constraints in manufacturing system.
i) What do you mean by inter- cell movement? How can it be minimized?
j) Outline the constraints in manufacturing system.
k) Briefly explain the concept of "control based on theory of constraints".
l) Differentiate between process layout and product layout with examples.

Part-III

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

Q3 Explain the various steps involved in a production flow analysis (PFA). Also point out the advantages and disadvantages associated with it. FMS. **(16)**

Q4 "An effective layout of plant 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 Enumerate the scope for FMS in the world of manufacturing today. State the types and composition. **(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: 2022-23
SUBJECT: Sourcing Management
BRANCH(S): MBA,RM, BA,GM, MBA (M&F)
Time : 3 Hour
Max Marks : 100
Q.Code : M148

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) Explain benefits of global Sourcing.
b) What do you mean by captive sourcing? Give an example.
c) Differentiate between short term contract and long term contract.
d) What are the primary drivers of global sourcing?
e) Explain the benefit of decentralized distribution Strategy.
f) What is a competitive tender?
g) Explain types of systematic risk.
h) What is the main tool used for risk management?
i) What do you mean by vendor risk portfolio?
j) Explain the term BATNA.

Part-II

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

a) What are the problems and challenges of global sourcing? Explain.
b) What are the reasons for International purchasing?
c) Write advantages and disadvantages of global sourcing.
d) How does a company have to be to benefit from global sourcing?
e) How can be global sourcing successfully?
f) Write a note on various criteria for evaluation of vendor's performance.
g) What are the techniques involved in vendor selection process?
h) Explain advantages and disadvantages of vendor rating.
i) What do you mean by self certify vendor management? Explain its significance.
j) What skills do you need to be a global sourcing manager?
k) Write short notes on supplier's score card.
l) What do you mean by Learning Curve? What are the factors affecting learning curve?

Part-III

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

Q3 What are the methods involved in Supplier evaluation and selection? (16)

Q4 Discuss three financial tools that a buyer could use to support a negotiation. (16)

Q5 What do you mean by supplier performance index? What are the advantages of calculating supplier performance index? What are the challenges associated with developing a measurement system that uses SPI? (16)

Q6 Write short notes on any two (16)

(a) Electronic Sourcing
(b) Green sourcing
(c) Quantity discount model