Exam. Code: 0313
Sub. Code: 2706

2123

M.Com. (E. & F.B.) Third Semester

FB-305: IT Applications and Operations Research in Family Business Management

Time allowed: 3 Hours

Max. Marks: 80

NOTE: *Attempt five questions in all, selecting atleast two questions from each Unit. All questions carry equal marks.*

x-x-x

UNIT - I

I. What are several e-business applications that you might recommend to a small company to help it survive and succeed in challenging economic times? Why?

II. Differentiate between typical data processing and management information system. "Business complexities lead to development of MIS". Do you agree with this statement? Justify your answer.

III. a) Explain the term 'paperless work'. How it can be made possible through information system. Cite an example.

b) What is virtual office? Describe how the virtual office might improve project team work?

IV. a) How are information systems transforming business and what is their relationship to globalization?

b) Describe how information systems have changed the way businesses operate and their products and services.

V. a) Describe the roles of information policy and data administration in information management.

b) Explain why data quality audits and data cleansing are essential?

UNIT - II

VI. A Company makes two kinds of leather belts, belt A and belt B. Belt A is a high quality belt and belt B is of lower quality. The respective profits are Rs 4 and Rs 3 per belt. The production of each of type A requires twice as much time as a belt of type B, and if all belts were of type B, the company could make 1000 belts per day. The supply of leather is sufficient for only 800 belts per day (both A and B combined). Belt A requires a fancy buckle and only 400 of these are available per day. There are only 700 buckles a day available for belt B.

What should be the daily production of each type of belt? Formulate this problem as an LP model and solve it using the simplex method.

P.T.O.

VII. An airline company has drawn up a new flight schedule that involves five flights. To assist in allocating five pilots to the flights, it has asked them to state their preferences scores by giving each flight a number out of 10. The higher the number, the greater is the preference. A few of these flights are unsuitable to some pilots owing to domestic reasons.

These have been marked with 'X'.

Flight Number

Pilot	I	II	III	IV	V
A	8	2	X	5	4
B	10	9	2	8	4
C	5	4	9	6	X
D	3	6	2	8	7
E	5	6	10	4	3

What should be the allocation of the pilots to flights in order to meet as many preferences as possible?

VIII. An architect has been awarded a contract to prepare plans for an urban renewal project.

The job consists of the following activities and their estimated times:

Activity	Description	Immediate Predecessors	Time (days)
A	Prepare preliminary sketches	-	2
B	Outline specifications	-	1
C	Prepare drawings	A	3
D	Write specifications	A,B	2
E	Run off prints	C,D	1
F	Have specification	B,D	3
G	Assemble bid packages	E,F	1

(a) Draw the network diagram of activities for the project.

(b) Indicate the critical path, and calculate the total float and free float for each activity.

IX. What is a linear programming problem? Discuss the scope and role of linear programming in solving managerial problems. Explain the major applications of linear programming in business.

X. Write short notes on:-

a) Replacement Models

b) Sensitivity Analysis

c) Uncertainty of PERT

d) Decision Tree Analysis

x-x-x