

NORTH MAHARASHTRA UNIVERSITY, JALGAON

SYLLABUS FOR F.Y.B.COM,
STATISTICS AND OPERATION RESEARCH - I
(w.e.f. from June, 1997)

FIRST TERM

1. Correlation

Meaning of correlation, types of correlation : Positive, negative, perfect.

Scauer diagram, Karl person's coefficient of correlation

Simple numerical problem.

12 L

2. Regression

Lines of regression, Fitting of lines of regression by the method of least square.

Properties of regression co-efficients.

Relation between correlation coefficients and regression coefficients.

Simple numerical problems.

12 L

3. Probability :

Experiments and random experiments.

Ideas of deterministic and non-deterministic models.

Definitions: Sample space, Event, Elementary event, certain event, impossible event probability (over finite sample space).

Conditional probability and independence.

Simple numerical problems.

12 L

4. Probability distributions

Concept of random variables, types of r.v.

Definition of probability mass Function (pmf) Definition of mathematical expectation and statement of properties,

Variance of r.v.

Simple numerical problems.

12 L

SECOND TERM

1. Sequencing Models

Sequencing problems.

Processing n jobs through two machines.

Processing n jobs through three machines.

12 L

2. Assignment Models

Definition of assignment model.

Solution of assignment model, Alternate optimal solutions.

12 L

3. Transportation models

Statement and meaning of T P.

Method of finding initial basic feasible solution by

i) North-west corner rule

ii) Matrix minima method

iii) Vogels approximation method

Test for optimal solution (u-v method) maximisation case, unbalance T P.

Simple problems (concept of degeneracy is not expected).

12 L

4. Replacement models

Meaning of replacement models.

Replacement of items that deteriorate i.e. whose maintenance costs increase with time Replacement of items whose

maintenance and repair costs increase with time ignoring.

Changes in the value of money during the period.

12 L

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