

Solapur University, Solapur

Code -23-A

Semester Pattern Syllabus

M. Com. Part-I

Paper - II

ADVANCED STATISTICS

Design of Experiments

Semester – I

(w. e. f. June 2010)

Periods

Unit-1: Introduction to the basic terms of designs of Experiments : (12)

Experimental Units, Treatments, Randomization, Replications,
Local Control, choice of size and shape of plot for uniformity trials.

Unit-2: Analysis of variance : (12)

Analysis of variance for one - way classification : Mathematical model, assumptions basic hypothesis and ANOVA table. Analysis of variance for two -way classification : mathematical model, assumptions basic hypothesis, ANOVA table.

Unit-3: Completely Randomized Design (CRD) : (12)

Description, layout, mathematical model and its analysis of variance test of equality of two treatment effects.

Unit-4: Randomized Block Design (RBD) : (12)

Description, layout, mathematical model and its analysis of variance test too equality of two treatment effects.

Unit-5: Latin square Design (LSD) : (12)

Description, layout, Mathematical model and its analysis of variance.

Semester –II
Sampling Techniques

Unit-1 : Introduction to sampling : (15)

Concept of population, sample, sampling error, advantages of sampling and principal steps in sampling.

Unit-2: Simple Random Sampling (SRS): (15)

S.R.S. with and without replacement, properties of the estimates (estimation of population mean and population variance).

Unit-3 :Stratified sampling : (15)

Description of stratified sampling method, unbiased estimator for population mean and population total, standard error of estimates, problem of allocation; Proportional allocation, optimum allocation.

Unit-4 :Systematic Sampling : (15)

Situations where systematic sampling is appropriate, Technique of drawing, Sample using systematic sampling, estimation of Population mean and population total, standard error of these estimates.

Reference Books:

- 1 Gupta and Kapoor : Applied Statistics
- 2 Goon, Gupta & Dasgupta : Fundamentals of Statistics (Vol. I & II)
- 3 Cochran & Cox : Experimental designs
- 4 Feherer : Experimental Designs
- 5 Cochran W : Sampling Techniques
- 6 Des Raj : Sampling theory
- 7 Daroga & Singg : Sampling Techniques
- 8 Sukhatme & Sukhatme : Theory of sampling.



Solapur University, Solapur
Nature of Question Paper For Semester Pattern
• Faculty of Commerce (B.Com., M.Com.)

Model Question Paper
(w.e.f. June 2010)

Time: - 2 hrs.

Total Marks-50

- | | | |
|-------------|--|-----------|
| Q. 1 | Multiple choice questions
(four alternatives should be given) | 10 |
| | 1 ----- | |
| | (a) (b) (c) (d) | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| | 10 | |
| Q. 2 | Answer the following
(Short note/Short problem/Short answer) | |
| | (A) | 05 |
| | (B) | 05 |
| Q. 3 | Answer the following
(Short note/Short answer/Short problem) | |
| | (A) | 05 |
| | (B) | 05 |
| Q. 4 | Answer any one (Long answer/Problem) | 10 |
| | i) | |
| | ii) | |
| Q. 5 | Answer any one (Long answer/Problem) | 10 |
| | i) | |
| | ii) | |

1. Structure of the courses :-

- A) Each paper of every subject for Arts, Social Sciences & Commerce Faculty shall be of 50 marks as resolved by the respective faculties and Academic Council.
- B) For Science Faculty subjects each paper shall be of 50 marks and practical for every subject shall be of 50 Marks as resolved in the faculty and Academic Council.
- C) For B. Pharmacy also the paper shall be of 50 marks for University examination. Internal marks will be given in the form of grades.
- D) For courses which were in semester pattern will have their original distribution already of marks for each paper.
- E) For the faculties of Education, Law, Engineering the course structure shall be as per the resolutions of the respective faculties and Academic Council.

2. Nature of question paper:

A) Nature of questions.

"20% Marks - objectives question" **(One mark each and multiple choice questions)**

"40% Marks - Short notes / Short answer type questions / Short Mathematical type questions/ Problems. **(2 to 5 Marks each)**

"40% Marks - Descriptive type questions / Long Mathematical type questions / Problems. **(6 to 10 Marks each)**

- B) Objective type question will be of multiple choice (MCQ) with four alternatives. This answer book will be collected in first 15 minutes for 10 marks and in first 30 minutes for 20 marks.

Each objective question will carry one mark **each**.

- C) Questions on any topic may be set in any type of question. All questions should be set in such a way that there should be permutation and combination of questions on all topics from the syllabus. As far as possible it should cover entire syllabus.
- D) There will be only five questions in the question paper. All questions will be compulsory. There will be internal option **(40%)** and not overall option. **for questions 2 to 5.**

3. Practical Examination for B. Sc. I. will be conducted at the end of second semester.

4. Examination fees for semester Examination will be decided in the Board of Examinations.

The structures of all courses in all Faculties were approved and placed before the Academic Council. After considered deliberations and discussion it was decided not to convene a meeting of the Academic Council for the same matter as there is no deviation from any decision taken by Faculties and Academic Council. Nature of Question Paper approved by Hon. Vice Chancellor on behalf of the Academic Council.