

SOLAPUR UNIVERSITY, SOLAPUR

Semester Pattern Syllabus

M.Com. Part II

Advanced Statistics - Paper III

(Industrial Statistics)

(w.e.f. June 2011)

Semester III

Unit 1 :

Introduction to Statistical Quality control Chance causes, assignable causes, Process Control, Product Control. Construction of control Chart, Statistical basis of control Limits of Control chart and uses of control chart. Natural tolerance limits and specification limits.

Unit 2 :

Control Charts for Variables: control chart for mean (\bar{x} chart) and Range (R-Chart). Derivation of Control Limits of \bar{x} & R charts when Standards are given and standards are not given. Concept of group, Control chart, Numerical examples.

Unit 3 :

Control Chart for Attributes: control chart for number of defectives, d-Chart for variable and fixed sample size, derivation of control limits When standards are given and standards are not given. Control chart for fraction defectives (P-Chart), Derivation of control limits when standards are given and standards are not given Control, chart for number of defects per unit (C chart), situations where C chart is useful, derivation of control limits when standards are given and standards are not given. Numerical Examples based on np, P and C charts.

Unit 4 :

Basic Concepts of Acceptance Sampling: Definition and Concept of Producer's risk, consumer's risk, AQL, LTPD, AOQ, AOQL, ASN, ATI and OC curve. Interpretation of AOQ, ASN and OC curves.

Books Recommended:

1. E.L. Grant: Statistical Quality Control
2. Duncan A.J. : Quality control and Industrial Statistic:
3. V.K Kapur and S.C. Saxena: Fundamentals of Applied Statistics
4. S.C. Gupta and V.K. Kapoor :- Fundamentals of Applied Statistics
5. Benjamin: Elements of Vital Statistics

SOLAPUR UNIVERSITY, SOLAPUR

Semester Pattern Syllabus

M.Com. Part II

Advanced Statistics - Paper III

(Industrial Statistics and Demography)

Semester IV

Unit 5 :

Acceptance Sampling Plans: Single and double sampling plan for Attributes. Construction of AOQ, OC and ASN curves for Single sampling plan. Acceptance sampling plan for variables.

Unit 6 :

Introduction of Demography and Mortality Rates: Introduction, Vital Statistics and uses of Vital Statistics, population I measurement. Mortality Rates. Crude death rate, specific death rates, standardized death rates (by direct & indirect method) Merits and demerits of COR, SDR and STDR. Numerical Examples.

Unit 7 :

Life Table and Fertility Rates: Assumptions, Description and Construction of Life table. Uses of Life Table. Fertility Rates: Specific fertility rate, Total fertility rate with merits and demerits. Numerical Examples.

Unit 8 :

Population Growth Rates: Crude rate of natural increase and Pearle's Vital index. Gross reproduction rate, Net reproduction rate and their merits, demerits and interpretation. Numerical examples.

Books Recommended :

1. E.L. Grant: Statistical Quality Control
2. Duncan A.J. : Quality control and Industrial Statistic:
3. V.K Kapur and S.C. Saxena: Fundamentals of Applied Statistics
4. S.C. Gupta and V.K. Kapoor :- Fundamentals of Applied Statistics
5. Speigiman: Emography
6. Srivastava: A text book of demography
7. Cox PR. : Demography
8. Benjamin: Elements of Vital Statistics



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

Model Question Paper
(w.e.f. June 2011)

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.