

RAJA SHANKAR SHAH UNIVERSITY, CHHINDWARA (M.P.)

M.Sc. Seed Technology

Examination Scheme Semester-IV

Course Code	Paper No.	Nomenclature of Paper	Max. marks		Minimum Passing Marks	
			Theory	CCE	Theory	CCE
MST : 401	I	Seed Marketing & Management	40	10	14	4
MST : 402	II	Statistic And Computer Application In Agriculture	40	10	14	4
MST : 403	III	Practical	50		25	
MST : 404	IV	Project/ Thesis + VIVA	100+50=150		75	
MST : 405	V	Two Seminars (based on Paper (I and II)	100		50	

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RAJA SHANKAR SHAH UNIVERSITY, CHHINDWARA (M.P.)

M.Sc. Seed Technology

Semester-IV

Paper-I

MST-401 : SEED MARKETING & MANAGEMENT

MM : 40+10=50

UNIT-I

- 1- Importance and promotion of quality seed, formal and informal seed supply systems.
- 2- Basic concepts of marketing with special reference to seed; seed marketing structure.
- 3- Direct marketing and contract marketing.
- 4- Marketing corporation.

UNIT-II

- 1- Importance and scope of seed industry in India.
- 2- Major constraints/problems in seed industry/seed sector role of seed association/ federation in seed trade.
- 3- Problems in Marketing in demand and supply, Institution site.
- 4- Seed marketing intelligence and product mix.
- 5- Sales promotion, distribution channels.
- 6- Marketing costs and margins.
- 7- Role of information technology and telecommunication in marketing of seed

UNIT-III

- 1- Demand and supply of seed: Role of seed replacement rate (SRR), seed multiplication ratio (SMR).
- 2- Cost of production and returns; determining seed needs; seed pricing and price policy.
- 3- Seed processing and /packaging, demand forecasting.
- 4- Value Chain finance.

UNIT-IV

- 1- Salient features of national seed policies, role of various sectors/agencies in efficient seed Marketing
- 2- Quality control and assurance program me. Responsibilities of seed companies and dealers under Seed Act, EXIM policies for seed trade etc.
- 3- Market research and market information services.

UNIT-V

- 1- Discuss the importance of seed processing.
- 2- Explain the basic steps in seed processing.
- 3- Dry and store seed.
- 4- Discuss the precepts of seed storage.
- 5- Discuss principles of conditioned seed storage.

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Suggested Readings

- 1- Kohls RL & UHI JN. 1980. Marketing of Agricultural Products. MacMillan.
- 2- Kundu KK & Suhag KS. 2006. Teaching Manual on Seed Marketing and Management. Department of Agricultural Economics CCS HAU Hisar.
- 3- Venugopal P. 2004. State of Indian Farmers: A Millennium Study. Vo. VIII. Input Management. Academic Foundation, Department of Agriculture and Cooperation, Ministry of Agriculture, New Delhi.



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M.Sc. Seed Technology

Semester-IV

Paper-II

MST-402 : STATISTIC AND COMPUTER APPLICATION IN AGRICULTURE

UNIT-I

40+10=50

- 1- Definition Aims Characteristics and Limitations of statistics. Classification and Tabulation of data Definition.
- 2- Advantages and disadvantages of Arithmetic mean, Median, Mode, Geometric Mean, Harmonic Mean and Weighted Mean as measures of central tendency:
- 3- Range Quartile Deviation Mean Deviation
- 4- Variance Standard Deviation and coefficient of variation as measures of dispersion. Definition of probability, Additive and Multiplicative Laws of Problems based on them.

UNIT-II

- 1- Definition, merits and demerits of complete enumeration and sample survey types of data need for sampling, sampling and Non-sampling errors concept of standard error.
- 2- Concepts of unit and population, sampling unit sampling frame, problem of incomplete frame.
- 3- Random sampling, simple Random sampling (srs) with and with out replacement (srswr, srswor), estimation of population Mean, Variance and their unbiased estimators.

UNIT-III

- 1- Basic concepts used in tests of Significance, statistical Hypothesis null Hypothesis two types of error level of significance, degree of freedom, definition and uses of z test in testing significance of difference between two means.
- 2- F test in testing equality of two variances test as test of independence of attributes in 2x2 contingency table only. Scattered diagram positive and negative correlation, correlation coefficient, rang of correlation coefficient, concept of line of best fit.
- 3- Basic principles of Experimental Design, Description and Analysis of Completety Randomized Design (CRD) Ramdomized Black Design (RBD) and latin Square Design (ISD).

UNIT-IV

- 1- Introduction of computer. A brief history of computing Data processing and information. 2-Characteristics of the computer, function, capability and limitation. Strength and weakness of computer.
- 2- Generation of computers, First, Second. Third fourth and fifth generation computer with their features only, types of computer.
- 3- Digital Analog and Hybrid computers Classification of computers on size and capabilities of micro- Mini-, Mainframe and Super Computer.

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UNIT-V

- 1- Anatomy and components of computer, computer organization CPU, ALU, Input and Output devices peripheral devices, storage units hard disk, compact disk, various types of memories.
- 2- RAM, ROM, PROM and EPROM. Number systems, Decimal, Binary, Octal, Hexadecimal, Character code ASCH, EBCDIC BCD.
- 3- Types of software, system software and application software, Introduction to DOS, (disk Operating System). Fundamentals of DOS commands, Internal commands, external commands, files and directory Editor. Elementary Idea fo Basic (Computer Language).

Suggested Readings

- Agarwal VK & Sinclair JB. 1997. Principles of Sedd Pathology. Boca Ratan.
- Karuna V. 2007. Seed Health Testing. Kalyani.
- Books related Computer Application.
- Books related Bio-Statistics.

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**M.Sc. Seed Technology
Semester-IV
Paper-III
MST-403 : Practical**

MM : 50

Suggested Practical –

- 1- To study the different methods of examination of seeds to assess seed-borne microorganisms and to quantify infection percentage.
- 2- Identification of seed borne fungi, bacteria and viruses.
- 3- Identification of storage fungi.
- 4- To study by Control of seed borne diseases.
- 5- Seed treatment methods.
- 6- To study by statutory requirements in seed business including R&D.

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RAJA SHANKAR SHAH UNIVERSITY, CHHINDWARA (M.P.)

M.Sc. Seed Technology

Semester-IV

Paper-IV

MST-404 : PROJECT/THESIS+ VIVA

MM : 100+50=150

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RAJA SHANKAR SHAH UNIVERSITY, CHHINDWARA (M.P.)

M.Sc. Seed Technology

Semester-IV

Paper-V

MST-405 : TWO SEMINARS

MM : 50+50=100

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