Course Structure for PG Programme in Statistics- Two Years (NEP 2020)

Programme code – PGFMS005

Semester –I

Course Code	Course Title	Credit Hour	Contact Hours per week L-Tu-P
P2STTC101	Probability and Distribution Theory	04	4-1-0
P2STTC102	Real Analysis and Measure Theory	04	4-1-0
P2STTC103	Sample Survey and Sampling Designs	04	4-1-0
P2STTC104	Linear Algebra	04	4-1-0
P2STPC105	Computing with MATLAB	04	0-0-4
P2STPC106	Statistical Computing with Excel	04	0-0-4
P2STPC107	Scientific Publishing using Latex	01	0-1-2
P2STPC108	Seminar	01	0-1-0
P2STTE109*	Basic Statistics	NC	4-1-0
Total Credits		26	

* Non-Credit Course meant for those students who have not studied Statistics at UG Level.

Semester–II

Course Code	Course Title	Credit Hours	Contact Hours per week L-Tu-P
P2STTC201	Advanced Probability Theory	04	4-1-0
P2STTC202	Linear Models and Regression Analysis	04	4-1-0
P2STTC203	Advanced Statistical Inference-I	04	4-1-0
P2STTC204	Advanced Multivariate Analysis	04	4-1-0
P2STPC205	Data Analytics with Python	04	0-0-4
P2STPC206	Computational Statistics with SPSS	04	0-0-4
P2STPC207	Seminar	01	0-1-0
P2STPC208	Communication Skills	01	0-0-2
Total Credits		26	
EXIT OPTION VOCATIONAL COURSES			
P2STV251	Advanced Data Analytics with Statistical Softwares	04	0-0-4

Semester – III

Course Code	Course Title	Credit Hours	Contact Hours per week L-Tu-P
P2STTC301	Advanced Design of Experiments	04	4-1-0
P2STTC302	Artificial Intelligence and Machine Learning	04	4-0-1
P2STTC303	Statistical Modelling and Computing	04	4-0-1
P2STRC304	Internship/Survey/Industrial Training	01	0-0-1
P2STPC305	Computing with R	04	0-0-4
P2STPC306	Advanced Data Analytics with SPSS	04	0-0-4
P2STPC307	Seminar	01	0-1-0
Any One of the following Elective Courses (From courses ending with TE308 to 313)			
P2STTE308	Advanced Statistical Inference-II	04	4-1-0
P2STTE309	Information Theory	04	4-1-0
P2STTE310	Advanced Sampling Techniques	04	4-1-0
P2STTE311	Advanced Biostatistics	04	4-1-0
P2STTE312	Advanced Reliability Theory	04	4-1-0
P2STTE313	Advanced Bayesian and Sequential Inference	04	4-1-0
P2STMO351	MOOC/SWAYAM	04	4-0-0
Total Credits		**30**	

Semester–IV

Course Code	Course Title	Credit Hours	Contact Hours per week L-Tu-P
P2STTC401	Stochastic Processes	04	4-1-0
P2STTC402	Optimization Techniques for Decision Making	04	4-1-0
P2STRC403	Research	16	0-0-16
Total Credits		**24**	

L – Number of Lecture, Tu – Number of Tutorials, P – Number of Practical hours.

SEMESTER-WISE CREDITS EARNED BY STUDENT

Semester	Credit Hours
Semester -1	26
Semester -2	26
Semester-3	30
Semester-4	24
Total Credits Earned	106

SCHEME OF EXAMINATIONS FOR THEORY COURSES OF 04 CREDITS

	Syllabus to be covered in the examination	Time allotted for the examination	% Weightage (Marks)
MINOR TEST I (after 30 days)	25%	1 hour	20
MINOR TEST II (after 60days)	26 to 50%	1 hour	20
Major Test (after 90 days)	100%	3 hours	60
Total			100

The student shall be continuously evaluated during the conduct of each course based on his/her performance as follows:

Minor Test I and Minor Test II

The Subjective Tests of Minor Test I and Minor Test II would consist of 10 **compulsory MCQ** of one mark each and THREE **subjective type questions** (05 marks each). Students are required to answer any **TWO** questions out of three asked questions. **No preparatory holidays shall be provided for the Test I and Test II.**

Those candidates who have appeared in Minor Test I and II and failed to get the minimum required marks i.e. 14 out of 40 will be eligible to re-appear in the Test I and Test II only once.

Major Test

The Major test will comprise of **two sections**, Section-A and Section-B.

Section-A will have **one compulsory question** comprising of 10 parts (minimum 02 from each unit) of 03 marks each. (10*3=30 marks)

Section-B will have 04 questions of 15 marks each to be set from the last two units (02 from each unit). In Section B students are required to attempt 01 question from each unit. (15*2=30 marks)

In major test there should not be a gap of more than two days in between two tests.

SCHEME OF EXAMINATIONS FOR SEMINAR COURSES

The seminar presentation shall carry 25 marks and distribution of marks shall be as under:

Presentation	Contents	Domain Knowledge	Total
05	10	10	25

Evaluation Criteria: Each student will be allotted a mentor under whose guidance

student will prepare the Seminar.

Each Seminar presentation will be of **duration 45-60 minutes**. Evaluation of the seminar will be done by the DAC members on the above parameters. There will be no external examination/viva-voce examination. The schedule of the Seminar will be issued by the Head of the Department.

SCHEME OF EXAMINATION FOR PRACTICAL COURSES OF 04 CREDITS

Each practical Internal and External paper shall carry **50 marks** and will be of **04 hours** and distribution of marks shall be as under:

Component	Marks	Remarks
Internal	25	After 60 days on completion of 50 % of syllabus **Written Exam: 20 Marks (Attempt two Practical of 10 Marks each out of three Practicals)** **Viva Voce :05 Marks**
External	75	On completion of entire syllabus **Written Exam: 40 Marks (two Practicals each of 20 Marks out of three Practicals)** **Case Study Report :10** **Viva Voce :25 Marks**
Total	100	

External Practical examination shall be conducted by Board of Examiners consisting of Head of the Department, concerned teacher and outside expert to be appointed by the Vice-Chancellor out of the panel to be provided by the Head of the Department who shall evaluate/assess final practical performance of the students.

SCHEME OF EXAMINATION FOR PRACTICAL COURSES OF 01 CREDIT

Each practical paper shall have the following distribution of marks and will be of **03 Hours**:

Component	Marks	Remarks
Internal	10	After 60 days on completion of 50 % of syllabus **Written Exam: 10 Marks (Attempt two Questions of 05 Marks Each out of Three asked questions from Module-1)**

External	15	On completion of entire syllabus **Written Exam: 10 Marks (Attempt two questions of 05 Marks Each out of Three Questions from Module-2)** **Viva Voce :05 Marks**
Total	25	

External Practical examination shall be conducted by Board of Examiners consisting of Head of the Department and the concerned teacher who shall evaluate/assess final practical performance of the students.

SCHEME OF EXAMINATION FOR SUMMER INTERNSHIP / SURVEY / INDUSTRIAL TRAINING

The internship shall be under a departmental teacher who will be designated as Internship Supervisor. After completion of summer internship students will have to produce a report related to the work carried out duly signed by the internship supervisor and Head of the department.

The Board of Examiners consisting of Head of the Department, one teacher of concerned department, and internship supervisor shall evaluate/assess performance of the students.

The work will be assessed on the following components:

Contents of the Report	**Seminar Presentation**	**Domain Knowledge**	**Total**
10	05	10	25

Note: The minimum passing criteria for the summer internship is 40%.

SCHEME OF EXAMINATION FOR RESEARCH

External Research examination shall be conducted by Board of Examiners consisting of Head of the Department, concern teacher and one outside expert to be appointed by the Vice-Chancellor out of the panel to be provided by the Head of the Department who shall evaluate/assess dissertation of the students.

The research work will be assessed on the following components:

Content Quality of Report/Dissertation	**Seminar Presentation**	**Domain Knowledge**	**Total**
150	100	150	400

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Programme code – PGFMS005

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Course Code	Course Title	Credit Hour	Percentage Change made as per recommendations of expert committee
P2STTC101	Probability and Distribution Theory	04	15%-20% change in syllabus
P2STTC102	Real Analysis and Measure Theory	04	15%-20% change in syllabus
P2STTC103	Sample Survey and Sampling Designs	04	15%-20% change in syllabus
P2STTC104	Linear Algebra	04	15%-20% change in syllabus
P2STPC105	Computing with MATLAB	04	25%-30% change in syllabus
P2STPC106	Statistical Computing with Excel	04	100% ,New course
P2STPC107	Scientific Publishing using Latex	01	100% , New course introduced
P2STPC108	Seminar	01	100% , New course
P2STTE109*	Basic Statistics	NC	100% , New course
	Total Credits	26	

* Non-Credit Course meant for those students who have not studied Statistics at UG Level.

Semester–II

Course Code	Course Title	Credit Hours	Percentage Change made as per recommendations of expert committee
P2STTC201	Advanced Probability Theory	04	10%-15% change in syllabus
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P2STTC203	Advanced Statistical Inference-I	04	25%-30% change in syllabus
P2STTC204	Advanced Multivariate Analysis	04	10%-15% change in syllabus
P2STPC205	Data Analytics with Python	04	25%-30% change in syllabus
P2STPC206	Computational Statistics with SPSS	04	25%-30% change in syllabus

Semester – III

Course Code	Course Title	Credit Hours	Percentage Change made as per recommendations of expert committee
P2STTC301	Advanced Design of Experiments	04	20%-25% change in syllabus
P2STTC302	Artificial Intelligence and Machine Learning	04	20%-25% change in syllabus
P2STTC303	Statistical Modelling and Computing	04	100% New Course
P2STRC304	Internship/Survey/Industrial Training	01	100% New Course
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P2STTE313	Advanced Bayesian and Sequential Inference	04	100% New Course
P2STMO351	MOOC/SWAYAM	04	No Change
Total Credits		30	

Semester–IV

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Total	100	

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SCHEME OF EXAMINATION FOR PRACTICAL COURSES OF 01 CREDIT

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Total	25	

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