CENTRE FOR GEOGRAPHICAL STUDIES

AKU CAMPUS, MITHAPUR, PATNA-800001

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NOTIFICATION

Director, Centre for Geographical studies, AKU Campus, Patna has constituted a committee for designing Regulation, Ordinance & Syllabus of Ph.D. Programme for starting the Academic Activity in the Centre in which Members are nominated by the Director, CGS, Patna are as follows:

Chairman

1. Prof. Poornima Shekhar Singh, Director, Centre for Geographical Studies, Patna

Member

2. Prof. R.B.P.Singh, Ex. Vice Chancellor, NOU & PU, Patna
3. Dr. Sanjeev Kumar, Assistant Professor, Raiganj University, West Bengal
4. Dr. Gaurav Sikka, Assistant Professor, University PG Department of Geography, LNMU, Darbhanga, Bihar
5. Dr. Rakesh Tiwary, Assistant Professor, Centre of Social Geography, A.N.Sinha Institute of Social Studies, Patna

First meeting for the above said will held on 31.10.2020 (Saturday) at 03:00 p.m.

Sd/-
Coordinator
Dr.Manish Parashar
Centre for Geographical Studies
AKU Campus, Patna

Letter No. : CGS/011/2020 - 58, **Dated**: 29.10.2020

Copy to: Information send to all the members and the invitees to attend the meeting for the necessary work.

Coordinator
Dr. Manish Parashar
Centre for Geographical Studies
AKU Campus, Patna

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Common Ordinance and Regulations for the award of Ph.D degree as per the University Grant Commission (Minimum Standards and Procedure for Award of Ph.D. degree) Regulations 2016 for all the Universities of Bihar (except BAU, Sabour)

(Source:Governor's Secretariat, Bihar, Letter No. BSU-05/2010-2684/GS(I) dated 21.09.2017 and amendments in the uniform ordinance and regulations, 2017 issued by the governer's secretariat through Memo no. BSU(Regulation)-05/2010-3230/Gs(I), dated18-12-2018)

Mode of Admission –

The subject wise merit list will be prepared on a scale of 100 including marks in Master degree; weightage on PAT/NET/BET/JRF and interview as mentioned in table I, i.e., maximum weightage on marks obtained in Master's Degree programme as 70 plus maximum weightage on PAT/NET/BET/JRF as 10 plus interview of 20 marks. Further it was resolved that candidates will be selected following the prescribed reservation rules of Bihar Government.

Table 1

Model of Weightage marks to be awarded against percentage aggregate marks for Master Degree Examination is mentioned below:-

Percentage marks in Master Degree	Weightage
50% to <55%	40
55% to <60%	45
60% to <65%	50
65% to <70%	55
70% to <75%	60
75% to <80%	65
80% and above	70
Eligibility without fellowship (PAT/NET/BET)	05
Eligibility with fellowship (JRF)	10
Interview	20
Total (maximum)	100
10 marks will be given to the teachers and non teaching employees (having more than three years experience) as given to JRF	

1. COURSE WORK

1.1 The finally selected candidates would be required to submit the stipulated fees for admission to Course-work only. This fee would include the fee for doing course work and the amount of fee will be as per Governor's Secretariat rule, Bihar, Letter No. BSU-05/2010-2684/GS(I) dated 21.09.2017 or if any modification thereof. All such candidates would admit in the Ph.D. Programme on the basis of the vacancy available in the concerned Centre.

1.2 All admitted candidates shall undertake a course work for a minimum period of one semester as prescribed by the University.

1.3 The course work shall be treated as a part of the Ph.D. programme. It would include two papers. The first being a compulsory course on research methodology and may include quantitative methods and computer applications; reviewing of published research in the relevant field and other techniques/methods, specific for broad subject area. The second paper would include research methods specific to concerned subject.

1.4 The Ph.D. course work shall be of 08 credits: each paper of 04 credits.

1.5 All course prescribed for Ph.D. course work shall be in conformity with the credit hour instructional requirement and shall specify content, instructional and assessment methods. They shall be duly approved by the authorized academic bodies.

1.6 Ph.D. scholar has to obtain a minimum of 55% of marks or equivalent Grade in order to be eligible to continue in the programme leading to the completion of Ph.D. thesis. A Mark sheet/Grade-Card would be provided by the University. Grades will be awarded on a seven-point scale as mentioned below:

SEVEN POINT SCALE	
GRADE	PERCENTAGE EQUIVALENT
'O'=Outstanding	75-100
'A'=Very Good	65-74
'B'=Good	55-64
'C'=Average	45-54
'D'=Below Average	35-44
'E'=Poor	00-24

1.7 If a candidate fails to qualify in the course work examination in first attempt, he/she will be given only one additional attempt (last) to clear the course work by appearing in the examination along with the next regular batch after paying due examination fees.

1.8 Completion of Course work successfully would be binding on all the Ph.D. candidates including teacher candidates.

1.9 Successful course work completion certificate has to be issued by the university/centre in the prescribed format.

2. Examination:

2.1 The End-Semester-Examination will be conducted by the Aryabhatta Knowledge University. The Mid semester examinations shall be conducted and evaluated by the Centre for Geographical Studies.

2.2 Mid-Semester Examination Shall be of 50 Marks

2.2.1 Review of Literature: 10 Marks

2.2.2 Paper publication/Collection and Analysis of Data: 20 Marks

2.2.3 Seminar Presentation and Comprehensive Viva Voce: 20 Marks

2.3 The end of Semester Examination (ESE) shall be 150 Marks, with each paper will be evaluated for 75 Marks.

(a) Syllabus for each paper shall be divided into two part i.e Part- A & Part – B. and each part will have at least 4 units. Based on this, the question paper pattern for the End Semester Examination shall have divided into two section 1 & 2 comprising of short answer type questions and long answer type questions respectively as mentioned below:

Part	Nature of questions	Number of Questions to be asked	Number of questions to be answered	Marks of each Question	Total marks
Section-1	Short answer type questions	15	10	03	30
Section-2	Long answer type questions	05	03	15	45
Total marks					75

Section-1

Fifteen short Answer Questions Ten questions to be answered (Questions shall be picked up from the whole syllabus)

10 x 3 = 30 marks

Section-2

Five long answer Questions Three questions to be answered. (Questions shall be picked up from the whole syllabus)

3 x 15 = 45 marks

2.4 The details of credits for individual components and individual courses are given in below Table:

Table- Description of papers for Ph.D Course work at the Centre for Geographical Studies

Course/ Paper Code		Title of the Course	Credit	Contact Hours	Marks	Marks of MSE	Marks of ESE	Passing Criterion
G-10001	Part -A	**Research Methods and computer application**	4	60	100	25	75	55
	Part - B	**Research and Publication Ethics**						
G-10002	Part -A	**Emerging Frontiers in Geography**	4	60	100	25	75	55
	Part - B	**GIS and Remote Sensing**						
		Total	**08**	**120**	**200**	**50**	**150**	**110**

Ph.D. Course work syllabus in Geography

SYLLABUS

The Doctoral Programme in Geography aims to develop a deep understanding of research, public policies and educational practices and the relationships among them. As preliminary part of this programme, a rigorous Course work will help in building foundational understanding of research in the Ph.D. scholars so that they can be prepared as a cadre of professionals who can develop a specialized knowledge in various areas of Geography.

Programme Specific Outcomes (PSO):

This course work programme is designed to achieve the following Specific Outcomes:

- **PSO-1**: Build a critical understanding of academic discourse in the Ph.D. scholars.
- **PSO-2**: Enable them to develop and demonstrate research writing skills.
- **PSO-3**: Promote thesis visualization, development and writing skills.
- **PSO-4**: Develop abilities in the Ph.D. scholars to teach specific courses and engage in tutorials and other practical task.

Credit requirement and Duration:

Total 08 credits 01 Credit = 15 hours of teaching 01 credit = 25 marks	**Duration: Six Months** Total 120 hours of teaching Minimum 08 hours of teaching per week for fifteen weeks
Note: No candidate will be allowed to appear in the theory examination unless he/she attends 75% classes and completes all related practicum assignments	

Structure of the Ph.D Coursework Programme:

The course work is having two papers of 04 credits each, total 08 credits.

Proposed Syllabus for Ph.D course work in Geography in the CGS, AKU Patna

Course		Title of the Course	Credit	Marks
G-10001		Research Methods: Introduction to computer application and research ethics		
	Part-A	Research Methods and computer application	4	100
	Part-B	Research and Publication Ethics		
G-10002		Advance Research methods in Geography		
	Part-A	Emerging Frontiers in Geography	4	100
	Part-B	GIS and Remote Sensing		
		Total	08	200

Content of the Syllabus

G-10001 –Research Methods: Introduction to computer application and research ethics

Part -A - Research Methods and Computer Application

The basic idea behind this course is to make the students aware of different aspects of research and its related field practices:

Unit- I -Research Methods

1.1 Meanings, scope, objectives, significance of Research Methodology
1.2 Concepts and Scientific Methods of Research
1.3 Relevance of conceptual framework in research
1.4 Identifying Research Questions
1.5 Importance of a Hypothesis: Its Formulation, Types and Testing
1.6 Purpose of Review and Overview of literature

Unit -II – Operationalization of Research

2.1 Practice and stages of geographical field work: Selecting a research universe, data collection and interaction techniques during the field trip
2.2 Field observation and field notes: Types, coding, analysis, Preparation of questionnaire, interview, focus group discussion
2.3 Types of data, their sources and limitation
2.4 Coding, tabulation along with master table preparation
2.5 Structure of research dissertation: Chapterization, need of appendix, glossary word, charts and tables
2.6 Citations, Bibliographic Management and Style of Referencing

Unit III- Computer aided Research

3.1 Fundamentals of computer
3.2 Familiar with MS-Office, Coral Draw, etc. scanning
3.3 Work on MS excel/SPSS: data entry, tabulation and analysis (Measures of Central tendency, dispersion and Variation)
3.4 Representation of data through computer aided techniques: graphs and diagrams
3.5 Applied deviation methods: Nearest Neighbour Analysis, Rank Size Rule

Unit IV- Computer assisted Quantitative and Qualitative Research

4.1. Basic principles of quantitative, qualitative research and principles of mixed methods research
4.2 Multivariate Regression, PCA, ANOVA, Statistical Hypothesis Testing
4.3. Idea of Triangulation in Qualitative research
4.4 Awareness of the following Software packages
4.4.1 SPSS,
4.4.2 STATA
4.4.3 SAS
4.4.4 ATLAS.ti
4.4.5 Transana

G-10001 – Part – B- RESEARCH AND PUBLICATION ETHICS

Unit I – PHILOSOPHY AND ETHICS

1.1 Introduction to philosophy of Social Science Research: definition, nature and scope, concept, branches

1.2 Ethics : definition, moral philosophy, nature of moral judgements and reactions

Unit II – SCIENTIFIC CONDUCT

2.1 Ethics with respect to science and research

2.2 Intellectual honesty and research integrity

2.3 Scientific misconducts: Falsification, Fabrication, and Plagiarism (FPP)

2.4 Redundant publications: duplicate and overlapping publications, salami elicing

2.5 Selective reporting and misrepresentation of data

Unit III- PUBLICATION ETHICS

3.1 Publication ethics: definition, introduction and importance

3.2 Best practices / standards setting initiatives ad guidelines: COPE, WAME, etc.

3.3 Conflicts of interest

3.4 Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types

Unit IV – PUBLICATION MISCONDUCT

4.1 Violation of publication ethics, authorship and contributorship

4.2 Identification of publication misconduct, complaints and appeals

4.3 Predatory publishers and journals

4.4 Use of plagiarism software like Urkund and other open source software tools

G-10002 – Advance Research methods in Geography

Part- A- EMERGING FRONTIERS IN GEOGRAPHY

Unit-I – Emerging frontiers in Physical Geography

1.1 Applied Geomorphology & River Studies

1.2 Ground water deviation and its challenges to eco-sustainability

1.3 Applied climatology

1.4 Climatic change and its impact

1.5 Environmental Geography

1.6 Bio-geography

1.7 Natural hazards/disaster

1.8 Sustainability and SDGs

1.9 Eco-tourism

Unit-II – Emerging frontiers in Human Geography

2.1 Quantitative research trends, Critical revolution in geography, Humanistic Approach, Behavioral Approach, Phenomenology Approach, Feminist Approach, Radical Approach, Pragmatism Approach

2.2 Social welfare, Social space, social and gender justice

2.3Recent theory and models in population geography

2.4Rural and urban development policies and programs

2.5Exclusionary spaces in Urban development
2.6Geo-parks & Geo-heritages
2.7Trends in tourism geography
2.8Geo-sheltics and Geopolitics

G-1002-Part-B-GIS and Remote Sensing

Unit I- Basics of Remote Sensing and GIS

1.1 Basics of Remote Sensing;
1.2 Image Properties and interpretation;
1.3 Digital Image Processing and Classification;
1.4 GIS: An Overview;

Unit II Introduction to Global Positioning System:

2.1 Definition; History and Development
2.2 GPS Satellite Constellations
2.3 GPS Segments: Space; Control; User; Signals & Codes
2.4 GPS Receivers; Operating Principle and Sources of Errors In GPS;
2.5 Modes of Measurements and Post Processing of Data;
2.6 Accuracy of GPS Observation;
2.7 GPS Applications in Various Fields;
2.8 Concept of DGPS and WAAS;
2.9 GNSS And Types (NAVSTAR; GLONASS; GALELIO);
2.10 IRNSS.

Unit III Data Structures and Data Base Design:

3.1 Digital representation of Geographic Data;
3.2 Raster and Vector models for Geographic Data Representation and Conversion;
3.3 Digitization—Methods and Errors; Topology Building;
3.4 GIS Data Standards—Concepts and Components;
3.5 Data and Information Sources for GIS;
3.6 GIS Data Base Management Systems--Conceptual and Logical Data Modelling;

UNIT IV Application Methodologies:

4.1 Spatial Analysis through GIS;
4.2 DEM/DTM and Derivatives;
4.3 Remote Sensing Data and GIS Integration;
1.5 GIS Project Design and Planning Methodologies
1.5 Applications of Remote Sensing and GIS in Natural Resource Management, Socio-economic Analysis, Disaster Management