



# **PRANANATH COLLEGE (AUTONOMOUS),** **KHORDHA, ODISHA**

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**NAAC 3<sup>rd</sup> Cycle  
Accreditation**

## **CRITERION WISE CONTENT**

**COLLEGE WITH POTENTIAL  
FOR EXCELLENCE (CPE)**

### CRITERION I-Curricular Aspects

#### Key Indicators 1.3: Curriculum Enrichment

Metrics: 1.3.3

#### **Supporting Documents Attached:**

1. Syllabus of the program highlighting components of field projects / research projects / internships

**STATE MODEL SYLLABUS FOR UNDER  
GRADUATE  
COURSE IN ECONOMICS  
(Bachelor of Arts Examination)**

**UNDER  
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	GE-IV	Introductory Macroeconomics	06	100
	SECC-II	SECC-II	04	100
			<b>28</b>	
Semester	Course	Course Name	Credits	Total marks
<b>V</b>	C-XI	Indian Economy I	06	100
	C-XII	Development Economics I	06	100
	DSE-I	1. Economic History of India (1857-1947) or 2. Public Economics	06	100
	DSE-II	1. Introductory Econometrics or 2. Odisha Economy or 3. Money and Banking	06	100
			<b>24</b>	
<b>VI</b>	C-XIII	Indian Economy II	06	100
	C-XIV	Development Economics II	06	100
	DSE-III	1. Environmental Economics or 2. History of Economic Thought	06	100
	DSE-IV	1. International Economics or 2. Agricultural Economics or 3. Project/Dissertation	06	100

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BA Education (Honours, Elective & Pass) Syllabus 2019-2020


	C-X	Guidance and Counseling	04	75
	C-X Practical			02
	GE-IV	GE-IV	04	75
	GE-IV Practical			02
	SEC-II	SEC-II	04	100
			<b>28</b>	
Semester	Course	Course Name	Credits	Total marks
V	C-XI	Development of Education in Odisha	04	75
	C-XI Practical		02	25
	C-XII	Information and Communication Technology in Education	04	75
	C-XII Practical		02	25
	DSE-I	A. Pedagogy of language (English) B. Pedagogy of language (Odia)	04	75
DSE-I Practical	02		25	
	DSE-II	A. Pedagogy of Social Sciences B. Pedagogy of Mathematics	04	75
	DSE-II Practical		02	25
			<b>24</b>	
VI	C-XIII	Contemporary Trends and Issues in Indian Education	04	75
	C-XIII Practical		02	25
	C-XIV	Educational Management and Leadership	04	75
	C-XIV Practical		02	25
	DSE-III	A. Policy and Practices in School Education in India B. Policy and Practices in Higher Education in India	04	75
	DSE-III Practical		02	25
	DSE-IV	Inclusive Education (Theory)	04	75
DSE-IV Practical	02		25	
	<b>OR</b>			
	DSE-IV	Dissertation	06	100*
			<b>24</b>	

**STATE MODEL SYLLABUS FOR UNDER  
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	C-IX	European Classical Literature	06	100
	C-X	Women's Writing	06	100
	GE-IV	Language and Linguistics	06	100
	SEC-II	SEC-II	04	100
			<b>28</b>	
Semester	Course	Course Name	Credits	Total marks
V	C-XI	Modern European Drama	06	100
	C-XII	Indian Classical Literature	06	100
	DSE-I	Literary Theory	06	100
	DSE-II	World Literature	06	100
			<b>24</b>	
VI	C-XIII	Postcolonial Literatures	06	100
	C-XIV	Popular Literature	06	100
	DSE-III	Partition Literature	06	100
	DSE-IV	Writing for Mass Media	06	100
	<b>OR</b>			
	DSE-IV	Dissertation	06	100*
			<b>24</b>	

  
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**SYLLABUS FOR UNDERGRADUATE  
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**UNDER**

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	DSE-IV	Project Report	6	100
			Total	148
				2600

### HISTORY

HONOURS PAPERS:

Core course – 14 papers

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**STATE MODEL SYLLABUS FOR  
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**Under Choice Based Credit System**

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	CCIV	Symbolic Logic				
III	CCV	Ethics		SECC -I		GE-III History of Modern European Philosophy
	CCVI	History of Greek Philosophy				
	CCVII	Systems of Indian Philosophy (II)				
IV	CCVIII	Contemporary Indian Philosophy		SECC-II		GE-IV Ethics: Theory and Practice
	CCIX	History of Modern European Philosophy				
	CCX	Philosophy of Language				
V	CCXI	Western Classics: Meditations of Rene Descartes			DSE-I PHILOSOPHY OF BHAGAVAD GITA	
	CCXII	Indian Text: Isa Upanishad			DSE-II PHILOSOPHY OF RELIGION	
VI	CCXIII	Social & Political Philosophy			DSE-III GANDHIAN STUDIES	
	CC XIV	Applied Ethics			DSE-IV RECENT WESTERN PHILOSOPHY/ PROJECT	

### PHILOSOPHY

### PHILOSOPHY-HONOURS

Core course – 14 papers

Discipline Specific Elective – 4 papers

**Skill Enhancement Compulsory Course-2 papers** Generic Elective for non Philosophy students  
– 4 papers. In case University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Marks per paper - Midterm : 20 marks, End term : 80 marks, Total – 100 marks

Credit per paper – 6, Teaching hours per paper – 50 hours + 10 hours tutorial

### CC I: GENERAL PHILOSOPHY

**Unit-I:** Definition, Nature & Function of Philosophy, and Philosophy in relation to other modes of thinking like Science & Religion.

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**STATE MODEL SYLLABUS FOR UNDER  
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	C-XIV	Modern Indian Political Thought	06	100
	DSE-III	India's Foreign Policy in a Changing world	06	100
	DSE-IV	Women, Power and Politics	06	100
	OR			
	DSE-IV	Dissertation	06	100*
			24	

**Discipline Specific Elective Papers: (Credit: 06 each) (4 papers to be selected by students of Political Science Honours): DSE 1-IV**

1. Human Rights in a Comparative Perspective
2. Development Process and Social Movements in Contemporary India (PROJECT)
3. India's Foreign Policy in a Globalizing world
4. Women, Power and Politics
5. Project \*Dissertation (can be opted as alternative of DSE-IV only and of 6 credits. **Dissertation content: 50, Seminar: 30, Viva: 20) as per regulation**

## POLITICAL SCIENCE

### HONOURS PAPERS:

Core course – Designated as CI to C XIV i.e. 14 papers

Discipline Specific Elective (DSE) – 4 papers

Generic Elective (GE) for non Public Administration students– 4 papers. In case University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

Marks per paper - Midterm: 20 marks, End term : 80 marks, Total – 100 marks

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**STATE MODEL SYLLABUS FOR  
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## PSYCHOLOGY

### Framework of CBCS Syllabus for PSYCHOLOGY (Honours) from 2019-20

**Full Forms of Course Codes Used:** CC = Core Course, AECC = Ability Enhancement Compulsory Course, SEC = Skill Enhancement Course, DSE = Discipline Specific Elective (Related to Core Subject), GE = Generic Elective (Not related to Core Subject; 2 different subjects of 2 papers each). **Total Marks:** CC (1400) + AECC (200) + SEC (200) + DSE (400) + GE (400) = 2600

Semester	CC 14 papers 100 X 14 = 1400; Credits=14x6=84	AECC 2 Papers 100 X 2 = 200 Credits=4x2=8	SEC 2 Papers 100 X 2 = 200 Credits=4x2=8	DSE 4 Papers 100 X 4 = 400 4x6=24 credits	GE 4 Papers 100 X 4 = 400 4x6=24 credits
I	CC-I: Introductory Psychology	AECC-I: MIL Communication (Odia/English)			GE Paper-I: Introductory Psychology
	CC-II: Basic Developmental Processes				
II	CC-III: Basic Psychological Processes	AECC-II: Environmental Science			GE Paper-II: Basic Developmental Processes
	CC-IV: Processes of Human Empowerment				
III	CC-V: Statistics		SEC-I:		GE Paper-III: Basic Psychological Processes
	CC-VI: Social Psychology				
	CC-VII: Environmental Psychology				
IV	CC-VIII: Psychopathology		SEC-II:		GE Paper-IV: Processes of Human Empowerment
	CC-IX: Educational Psychology				
	CC-X: Psychological Assessment				
V	CC-XI: Organizational Behavior			DSE-I: Psychological Research and Measurement	
	CC-XII: Health Psychology			DSC-II: Ethics, Integrity and Aptitude	
VI	CC-XIII: Counseling Psychology			DSC-III: Psychology of the Disability	
	CC-XIV: Positive Psychology			DSC-IV: Project & Field work/ Psychology of Crime	

### PSYCHOLOGY Papers for HONOURS Students

Core course – 14 papers, Discipline Specific Elective – 4 papers, Generic Elective for non-psychology honours students – 4 papers. In case University offers 2 subjects as GE, then papers 1 and 2 will be the GE paper.

#### Scoring System for Papers with Practical:

Marks per paper - Midterm: 15 marks, Practical: 25 marks, End term: 60 marks, Total: 100 marks, Credit per paper – 6, Teaching hours per paper – 40 hours theory + 20 hours practical

#### Scoring System for Papers without Practical:

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## SANSKRIT

### Framework of CBCS Syllabus for SANSKRIT (Honours) from 2019-20

**Abbreviations used:** CC- Core Course, DSE-Discipline Specific Elective, GE-Generic Elective, SEC-Skill Enhancement Course, AECC-Ability Enhancement Compulsory Course

**Total Marks-** CC(1400)+DSE(400)+GE(400)+SEC(200)+AECC(200) = 2600

**Total Credits-** CC(84)+DSE(24)+GE(24)+SEC(8)+AECC(8) =148

Semester	CC 14 papers	AECC 2 Papers	SEC 2 Papers	DSE 4 Papers	GE 4 Papers
I	CC-1: Moral Teachings and Basics of Sanskrit	AECC-I: Environmental Science			GE I: Moral Teachings and Basics of Sanskrit
	CC-2: Drama-I & History of Sanskrit Literature -I				
II	CC-3: Drama-II & Dramaturgy	AECC-II M.I.L.			GE II: Khandakavya & Darsanakavya
	CC-4: An Introduction to the Technique of Paninian Grammar & Prosody				
III	CC-5: Poetry & History of Sanskrit Literature- II		SEC I: Communicative English		GE III: Technical Literature in Sanskrit ( Jyotisa & Vastu)
	CC-6: Meta-Rules of Paninian Grammar, Poetics and Figures of Speech				
	CC-7: Cases and Case Endings in Paninian Grammar & Translation-I				
IV	CC-8: Upanisad, Ramayana & Bhagavadgita		SEC II: Quantitative Aptitude		GE IV: Ethical Literature in Sanskrit
	CC-9: Case and Case Endings of Paninian Grammar, Translation- II & Lexicon				
	CC-10: Ornate Prose in Classical Sanskrit				
V	CC-11: Ornate Poetry in Sanskrit			DSE-1: Socio-Political Thought in Ancient India	
	CC-12: Veda, Vedic Grammar & History of Vedic Literature			DSE-2: Ethical Literature in Sanskrit	
VI	CC-13: Ayurveda & Vrksayurveda			DSE-3: Translation, Editing and Writing Skill	
	CC-14: Technical Literature in Sanskrit			DSE-4: Project Preparation and Presentation)	

**STATE MODEL SYLLABUS FOR UNDER  
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## SOCIOLOGY UNDERGRADUATE SYLLABUS FOR HONOURS

SL.No	Semester	Number	Title of the Course	Marks	Credit
1	1st	DSC.H.SOC.1	Introduction to Sociology-1	80+20	6
2		DSC.H.SOC.2	Introduction to Sociology-2	80+20	6
3		GE.H.SOC.1	Introduction to Sociology-1	80+20	6
4		AECC.H.SOC.1		80+20	4
5	2nd	DSC.H.SOC.3	Indian Society	80+20	6
6		DSC.H.SOC.4	Sociology of Environment	80+20	6
7		GE.H.SOC.2	Indian Society	80+20	6
8		AECC.H.SOC.2		80+20	4
9	3rd	DSC.H.SOC.5	Classical Sociological Thinkers	80+20	6
10		DSC.H.SOC.6	Social Change & Development	80+20	6
11		DSC.H.SOC.7	Sociology of Gender	80+20	6
12		GE.H.SOC.3	Social Change and Development	80+20	6
13		SEC SOC.1	Political Sociology	80+20	4
14	4th	DSC.H.SOC.8	Rural Sociology	80+20	6
15		DSC.H.SOC.9	Globalization & Society	80+20	6
16		DSC.H.SOC.10	Marriage, Family and Kinship	80+20	6
17		GE.H.SOC.4	Rural Sociology	80+20	6
18		SEC SOC.2	Industrial Sociology	80+20	4
19	5th	DSC.H.SOC.11	Research Methodology	80+20	6
20		DSC.H.SOC.12	Social Movements in India	80+20	6
21		DSE.H.SOC.1	Sociology of Health	80+20	6
22		DSE.H.SOC.2	Sociology of Education	80+20	6
23	6th	DSC.H.SOC.13	Population & Society	80+20	6
24		DSC.H.SOC.14	Social Disorganization & Deviance	80+20	6
25		DSE.H.SOC.3	Urban Sociology	80+20	6
26		DSE.H.SOC.4	Field Work & Dissertation / Tribes of India	80+20	6
<b>TOTAL</b>				<b>2600</b>	<b>0</b>

SOCIOLOGY

  
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**STATE MODEL SYLLABUS FOR  
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	C-10 (Theory)	Plant Systematics	4	75
	C-10 (Practical)	Plant Systematics	2	25
	SEC II		4	100
	GE-2B (Theory)	Plant Anatomy , Embryology & Biotechnology	4	75
	GE-2B(Practical)	Plant Anatomy , Embryology & Biotechnology	2	25
Semester-V	C-11 (Theory)	Reproductive Biology of Angiosperms	4	75
	C-11 (Practical)	Reproductive Biology of Angiosperms	2	25
	C-12 (Theory)	Plant Physiology	4	75
	C-12 (Practical)	Plant Physiology	2	25
	DSE - 1 (Theory)	Analytical Techniques in Plants Sciences	4	75
	DSE - 1 (Practical)	Analytical Techniques in Plants Sciences	2	25
	DSE - 2 (Theory)	Natural Resource Management	4	75
	DSE - 2 (Practical)	Natural Resource Management	2	25
Semester- VI	C-13 (Theory)	Plant Metabolism	4	75
	C-13 (Practical)	Plant Metabolism	2	25
	C-14 (Theory)	Plant Biotechnology	4	75
	C-14 (Practical)	Plant Biotechnology	2	25
	DSE - 3 (Theory)	Horticulture Practices & Post Harvest Technology	4	75
	DSE-3 (Practical)	Horticulture Practices & Post Harvest Technology	2	25
	DSE – 4 Project work	Project Work	6	100
Total			148	2600

  
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**BOTANY**



**STATE MODEL SYLLABUS FOR UNDER  
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	C-IX	Organic Chemistry-III	04	75
	C-IX Practical	Organic Chemistry-III Lab	02	25
	C-X	Physical Chemistry-IV	04	75
	C-X Practical	Physical Chemistry-IV Lab	02	25
	GE-IV	GE-IV (Theory)	04	75
	GE-IV Practical	GE-IV (Practical)	02	25
	SECC-II	SECC-II	04	100
			28	500
V	C-XI	Organic Chemistry-IV	04	75
	C-XI Practical	Organic Chemistry-IV	02	25
	C-XII	Physical Chemistry-V	04	75
	C-XII Practical	Physical Chemistry-V	02	25
	DSE-I	DSE-I	04	75
	DSE-I Practical	DSE-I Lab	02	25
	DSE-II	DSE-II	04	75
	DSE-II Practical	DSE-II Lab	02	25
			24	400
VI	C-XIII	Inorganic Chemistry- IV	04	75
	C-XIII Practical	Inorganic Chemistry-IV	02	25
	C-XIV	Organic Chemistry-V	04	75
	C-XIV Practical	Organic Chemistry-V	02	25
	DSE-III	DSE-III	04	75
	DSE-III Practical	DSE-III Lab	02	25
	DSE-IV	DSE-IV	04	75
	DSE-IV Practical	DSE-IV Lab	02	25
	OR		06	100*
	DSE-IV	Dissertation	24	400
			148	2600
		<b>TOTAL</b>		

Discipline Specific Elective Papers: (Credit: 06 each)

(4 papers to be selected by students of Chemistry Honours): DSE (1-IV)

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## GEOGRAPHY

Semester	COURSE CODE	COURSE NAME	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Elective Course (AEEC) (2) (Skill Based)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (4)
I	CC1	Geomorphology	English Communication/ Odia/ Hindi			GE-I Geography of India
	CCII	Cartography				
II	CCIII	Human Geography	Environmental Studies			GE-II Geography of Odisha
	CCIV	Climatology				
III	CCV	Oceanography		SEC -I  Communicative English and English Writing		GE-III  Climatology
	CCVI	Statistical Methods in Geography				
	CCVII	Geography of Odisha				
IV	CCVIII	Evolution of Geographical Thought		SEC II University Option		GE- IV Human Geography
	CCIX	Economic Geography				
	CCX	Environmental Geography				
V	CCXI	Regional Planning and Development			DSE-I Population Geography  DSE -II Resource Geography	
	CCXII	Remote Sensing & GIS				
VI	CCXIII	Geography of India			DSE -III Urban Geography  DSE - IV or Dissertation/ Project Work	
	CC XIV	Disaster management				

  
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(Bachelor of Science Examination)**

**UNDER  
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Discipline Specific Elective-4	DSE-4	4
Discipline Specific Elective-4 Practical	DSE-4 LAB/ Tutorial	2

**CORE Papers: (Credit: 06 each)**

- CORE - 1: Programming Using C
- CORE - 2: Digital Logic
- CORE - 3: Programming Using C++
- CORE - 4: Data Structure
- CORE - 5: Java Programming
- CORE - 6: Database Systems
- CORE - 7: Discrete Mathematical Structures
- CORE - 8: Operating System
- CORE - 9: Computer Network
- CORE - 10: Computer Graphics
- CORE - 11: Web Technologies
- CORE - 12: Software Engineering
- CORE - 13: Artificial Intelligence
- CORE - 14: Algorithm Design Techniques

**Discipline Specific Electives (DSE) Papers:**

- DSE-1: Numerical Techniques
- DSE-2: Unix Shell Programming
- DSE-3: Data Science
- DSE-4: Project Work / Dissertation

OR

Data Mining

**Skill Enhancement Courses (SEC):**

- SEC - 1: Python Programming.
- SEC - 2: Android Programming.

**Ability Enhancement Courses (AEC):**

- AEC - 1: Environmental Science.
- AEC - 2: English Communication/MIL.

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**STATE MODEL SYLLABUS FOR UNDER  
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			28
IV	C-VIII	Numerical Methods and Scientific Computing	04
			02
	C-VIII	Practical	
	C-IX	Topology of Metric spaces	05
	C-IX	Tutorial	01
	C-X	Ring Theory	05
	C-X	Tutorial	01
	GE-IV	GE-IV (Theory)	05
	GE-IV	Tutorial	01
	SECC-II	SECC-II	04
			28
Semester	Course	Course Name	Credits
V	C-XI	Multivariable Calculus	05
			01
	C-XI	Tutorial	
	C-XII	Linear Algebra	05
			01
	C-XII	Tutorial	
	DSE-I	Linear Programming	05
		01	
DSE-I	Tutorial		
	DSE-II	Probability and Statistics	05
			01
	DSE-II	Tutorial	
			24
VI	C-XIII	Complex analysis	05
			01
	C-XIII	Tutorial	
	C-XIV	Group Theory-II	05
			01
	C-XIV	Tutorial	
	DSE-III	Differential Geometry	05
			01
DSE-III	Tutorial		
	DSE-IV	Number Theory/Project	06
			24
		<b>TOTAL</b>	<b>148</b>

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**STATE MODEL SYLLABUS FOR UNDER  
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VI Papers  
(400 Marks)

	Applications	
Core Course-XI Practical/Tutorial	Quantum Mechanics Lab	2
Core course-XII	Solid State Physics	4
Core Course-XII Practical/Tutorial	Solid State Physics Lab	2
Discipline Specific Elective -1	DSE-1	5
Discipline Specific Elective -1	Practical/Tutorial	1
Discipline Specific Elective -2	DSE-2	5
Discipline Specific Elective- 2	Practical/Tutorial	1
Core course-XIII	Electro-magnetic Theory	4
Core Course-XIII Practical/Tutorial	Electro-magnetic Theory Lab	2
Core course-XIV	Statistical Mechanics	4
Core Course-XIV Practical/Tutorial	Statistical Mechanics Lab	2
Discipline Specific Elective -3	DSE-3	5
Discipline Specific Elective -3	Practical/Tutorial	1
Discipline Specific Elective-4	DSE-4	4/5
Discipline Specific Elective -4	Practical/Tutorial	2/1
Alternative to Discipline Specific Elective-4	(Eligible Students may do a Project in DSE-IV)	6
	Total Credits	148

VI  
4 Papers  
(400 Marks)

Discipline Specific Elective Paper-IV  
Project  
OR

Generic Elective Papers (GE) (Minor-Physics) for other Departments/Disciplines: (Credit: 06 each)

Depending on their requirements, Universities may choose 2 (two) GE subjects with 2 papers from each subject or only one GE subject with 4 papers from it.

Two papers GE subject will be :

GE-I (Mechanics & Properties of matter, Oscillation & Waves, Thermal Physics, Electricity and Magnetism & Electronics) + Lab

GE-II (Optics, Special Theory of Relativity, Atomic Physics, Quantum Mechanics and Nuclear Physics)+ Lab

Student who chooses to read only Physics subject GE will take 4 DSC papers of Pass Course as below

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	(Practical)	Vertebrates		
	Core IX (Theory)	Physiology: Life Sustaining Systems	4	75
	Core IX (Practical)	Physiology: Life Sustaining Systems	2	25
	Core X (Theory)	Biochemistry of Metabolic Processes	4	75
	Core X (Practical)	Biochemistry of Metabolic Processes	2	25
	SEC 2	SEC 2	4	100
	GE IV (Theory)	GE IV (Theory)	4	75
	GE IV (Practical)	GE IV (Practical)	2	25
Semester-V	Core XI (Theory)	Molecular Biology	4	75
	Core XI (Practical)	Molecular Biology	2	25
	Core XII (Theory)	Principles of Genetics	4	75
	Core XII (Practical)	Principles of Genetics	2	25
	DSE I (Theory)	DSE I	4	75
	DSE I (Practical)	DSE I	2	25
	DSE II (Theory)	DSE II	4	75
	DSE II (Practical)	DSE II	2	25
Semester-VI	Core XIII (Theory)	Developmental Biology	4	75
	Core XIII (Practical)	Developmental Biology	2	25
	Core XIV (Theory)	Evolutionary Biology	4	75
	Core XIV (Practical)	Evolutionary Biology	2	25
	DSE III (Theory)	DSE III	4	75
	DSE III (Practical)	DSE III	2	25
	DSE IV (Theory with Practical /Project)	Project/ Economic Zoology	6	100
Total			148	2600

# ELECTRONICS HONOURS

**Transmission Lines, Antenna and Wave Propagation Lab**  
(Scilab/MATLAB/Other Mathematical Simulation Software)  
**60 Lectures**

1. Program to determine the phasor of forward propagating field.
2. Program to determine the instantaneous field of a plane wave.
3. Program to find the Phase constant, Phase velocity, Electric Field Intensity and Intrinsic ratio.
4. Program to find skin depth, loss tangent and phase velocity.
5. Program to determine the total voltage as a function of time and position in a loss less transmission line.
6. Program to find the characteristic impedance, the phase constant and the phase velocity.
7. Program to find the output power and attenuation coefficient.
8. Program to find the power dissipated in the lossless transmission line.
9. Program to find the total loss in lossy lines.
10. Program to find the load impedance of a slotted line.
11. Program to find the input impedance for a line terminated with pure capacitive Impedance.
12. Program to determine the operating range of frequency for TE<sub>10</sub> mode of air filled rectangular waveguide.
13. Program to determine Directivity, Bandwidth, Beamwidth of an antenna.
14. Program to determine diameter of parabolic reflector.
15. Program to find out minimum distance between primary and secondary antenna.

**SEMESTER-VI**

**DSE-4 : PROJECT WORK**  
(Credits: 06) (Compulsory)



1. Khanna, Sri Ram, Savita Hanspal, Sheetal Kapoor, and H.K. Awasthi. Consumer Affairs"
2. (2007) Delhi University Publication. 334 pp.
3. Aggarwal, V. K. (2003). Consumer Protection: Law and Practice. 5th ed. Bharat Law House, Delhi, or latest edition.
5. Girimaji, Pushpa (2002). Consumer Right for Everyone Penguin Books.
6. Nader, Ralph (1973). The Consumer and Corporate Accountability. USA, Harcourt Brace
7. Jovanovich, Inc.
8. Sharma, Deepa (2011). Consumer Protection and Grievance-Redress in India: A Study of Insurance Industry (LAP LAMBERT Academic Publishing GmbH & Co.KG, Saarbrucken, Germany. 263 pp.
10. Saarlbrucken, Germany. 263 pp.
11. Empowering Consumers e-book, [www.consumeraffairs.nic.in](http://www.consumeraffairs.nic.in)
12. ebook, [www.bis.org](http://www.bis.org)
13. Nair Suja – Consumer Behaviour – Himalaya Publishing House

DSE-4

B.Com. (Hons.): Semester – VI

Business Research Methods and Project Work

**Objective:** This course aims at providing the general understanding of business research and the methods of business research. The course will impart learning about how to collect, analyze, present and interpret data.

**Section A: Business Research Methods 50 Marks**

#### Unit-I

**Introduction:** Meaning of research; Scope of Business Research; Purpose of Research – Exploration, Description, Explanation; Unit of Analysis – Individual, Organization, Groups, and Data Series; Conception, Construct, Attributes, Variables, and Hypotheses.

#### Unit-II

**Research Process:** An Overview; Problem Identification and Definition; Selection of Basic Research Methods- Field Study, Laboratory Study, Survey Method, Observational Method Existing Data Based Research, Longitudinal Studies, Panel Studies

#### Unit-III

**Measurement:** Definition; Designing and writing items; Uni-dimensional and Multi-dimensional scales; Measurement Scales- Nominal, Ordinal, Interval, Ratio; Ratings and Ranking Scale, Thurstone, Likert and Semantic Differential scaling, Paired Comparison; Sampling – Steps, Types, Sample Size Decision; Secondary data sources

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**MSc. CBCS SYLLABUS IN ZOOLOGY-2020-21  
SEMESTER-I (ODD)**

**A. CORE COURSES**

Course No	Course Title	Lectures	Credits	Marks
ZOO-101	Biosystematics, Bioinformatics and Non-Chordates	40	6	100
ZOO-102	Cell Biology and Genetics	40	6	100
ZOO-103	Physiology, Histology and Histochemistry	40	6	100
ZOO-104	Instrumentation and Biostatistics	40	6	100
ZOO-105	Practical related to theory papers	60	6	100

**Total Credits-30, Marks-500**

**SEMESTER-II (EVEN)**

**A. CORE COURSES**

Course No	Course Title	Lectures	Credits	Marks
ZOO-201	Biophysics and Biochemistry	40	6	100
ZOO-202	Microbiology and Immunology	40	6	100
ZOO-203	Endocrinology and Reproductive Physiology	40	6	100
ZOO-204	Evolutionary Biology and Animal Behaviour OR A 6 credit SWAYAM course as per availability and relevance	40	6	100
ZOO-205	Practical related to theory papers	60	6	100

**Total Credits-30, Marks-500**

**SEMESTER-III (ODD)**

**B. CORE COURSES**

Course No	Course Title	Lectures	Credits	Marks
ZOO-301	Chordates, Comparative Anatomy and Economic Zoology	40	6	100
ZOO-302	Developmental Biology	40	6	100
ZOO-305	Practical related to theory papers	60	6	100

**C. ALLIED ELECTIVE COURSE \***

Course No.	Course Title Environment,	Lectures	Credits	Marks
ZOO-303	Environmental Biology and Wildlife Conservation	40	6	100
ZOO-304	Animal Physiology and Developmental Biology	40	6	100

**Total Credits-30, Marks-500**

\* Open for students of allied Department

**D. FREE ELECTIVE COURSE (Open to students of all Post Graduate Departments)**

Course No.	Course Title	Lectures	Credits	Marks
ZFC-1	Wildlife	40	-	-
ZFC-2	Conservation Biology and Biodiversity	40	-	-

**Credits-0**

**E. CORE ELECTIVE COURSES (If more than one of these courses are offered in a year, a student is required to choose only one, i.e., 'A' or 'B' or 'C' or 'D')**

**Semester-IV (EVEN)**

**a. Molecular Biology**

Course No	Course Title	Lectures	Credits	Marks
ZOO-401A	Molecular Biology, Genetic Engineering and Applications	40	6	100
ZOO-402A	Microbial Ecology and Biotechnology, and Nanobiology	40	6	100
ZOO-403A	Animal development and Neurobiology	40	6	100
ZOO-404A	Project work	-	12	200

**Total Credits-30, Marks-500**

**Grand Total Marks= 2000**

**Credits-120**

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b) Organismic Biology

Course No	Course Title	Lectures	Credits	Marks
Zoo-401B	Structure and Function of Vertebrates	40	6	100
Zoo-402B	Population Genetics and Evolution	40	6	100
Zoo-403B	Environmental Biology and Toxicology	40	6	100
Zoo-404B	Project work	40	6	100
Zoo-405B	Practical related to theory papers	60	6	100

c) Cell Biology

Course No	Course Title	Lectures	Credits	Marks
Zoo-401C	Molecular Biology and Genetic Engineering	40	6	100
Zoo-402C	Cellular and Integrative Neurobiology, Environmental Biotechnology	40	6	100
Zoo-403C	Animal Development and Vertebrate Immune System	40	6	100
Zoo-404C	Project work	40	6	100
Zoo-405C	Practical related to theory papers	60	6	100

d) Medical Entomology (This paper is proposed to run at RMRC, Bhubaneswar subject to willingness and approval by Director, RMRC)

Course No	Course Title	Lectures	Credits	Marks
Zoo-401D	Morphology, Taxonomy and Biodiversity of Vectors	40	6	100
Zoo-402D	Arthropods of Public Health Importance	40	6	100
Zoo-403D	Control of Vector of Public Health Importance & Biostatistics	40	6	100
Zoo-404D	Project work	40	6	100
Zoo-405D	Practical related to theory papers	60	6	100

Total Credits-30, Marks-500

Grand Total Marks= 2000  
Credits-120

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Structure of syllabus for Semester Pattern Choice based credit system  
M.Sc. (Chemistry) Programme effective from the session- 2020 - 2021

SEMESTER I

Core Paper	Subject (Paper)	Code	Credit	Full Marks	Total Marks
Theory	Inorganic Chemistry-I	CH-401	3	70	450
Theory	Organic Chemistry- I	CH -402	3	70	
Theory	Physical Chemistry -I	CH -403	3	70	
Practical	Inorganic Chem. Practical-I	CH -404	4	50	
Practical	Organic Chem. Practical-I	CH -405	4	50	
Allied Elective					
Theory	Spectroscopy-I	CH -406	3	70	
Theory	Computer for Chemist	CH -407	3	70	

SEMESTER II

Core Paper	Subject (Paper)	Code	Credit	Full Marks	Total Marks
Theory	Inorganic Chemistry-II	CH -408	3	70	450
Theory	Organic Chemistry-II	CH -409	3	70	
Theory	Physical Chemistry-II	CH -410	3	70	
Practical	Inorganic Chem. Practical-II	CH -411	4	50	
Practical	Organic Chem. Practical-II	CH -412	4	50	
Allied Elective					
Theory	Spectroscopy-II	CH -413	3	70	
Theory	Analytical Chemistry	CH-414	3	70	

SEMESTER III

Core Paper	Subject (Paper)	Code	Credit	Full Marks	Total Marks	
Theory	Pericyclic reactions and photochemistry	CH -501	3	70	450 (Marks of Add on course is not included)	
Theory	Bioinorganic & Supramolecular Chemistry	CH -502	3	70		
Practical	Applied Chemistry Practical	CH -503	4	50		
Practical	Physical Chemistry Practical-I	CH -504	4	50		
Allied elective						
Theory	Application of Spectroscopy-I	CH -505	3	70		
Theory	Organic Synthesis	CH -506	3	70		
<i>Allied elective for M.Sc. Students and Free elective for other discipline</i>						
Theory	Environmental Chemistry	CH -507	3	70		
***Add on Course						
Theory	Techniques of Chemical Analysis	CH-ADD1	4	50		

SEMESTER IV

Core Elective Papers	Subject (Paper)	Code	Credit	Full Marks	Total Marks
Theory	Bioorganic Chemistry	CH -508	3	70	450
Theory	Organotransition metal chemistry	CH -509	3	70	
Theory	Polymer Chemistry	CH -510	3	70	
Theory	Solid State Chemistry	CH -511	3	70	
Theory	Solid State Chemistry	CH -512	4	50	
Practical	Physical Practical -II	CH -513	6	50	
Project	Project work and Seminar				
Allied Elective					
Theory	Application of Spectroscopy-II	CH -514	3	70	

Total Credit = 94, Total full marks = 1800

\*Allied departments are Physics, Zoology, Botany, Biotechnology, Geology, and Computer Science

\* Free elective is open for students from any discipline.

\*\*\*Add on course is open to M. Sc. students of Physics, Chemistry, Zoology, Botany, Biotechnology, Geology and Pharmacy. \*\*\*Add on course is open to any discipline of Utkal University



## Outlines of M.Sc. (Botany) Syllabus

<b>Semester-I</b>		<b>Mark</b>	<b>Credit</b>
<b>Core Papers:</b>	<b>Core Papers Name</b>		
Paper-BOT-101	Diversity of Life	100	06
Paper-BOT-102	Diversity of Vascular Plants	100	06
Paper-BOT-103	Cell & Molecular Biology of Plants	100	06
Paper-BOT-104	Plant Biochemistry / SWAYAM Course on Biochemistry	100	06
Paper-BOT-105	Practical pertaining to Theory Papers – BOT-101, BOT-102, BOT-103, BOT-104	100	06
	<b>TOTAL</b>	<b>500</b>	<b>30</b>
<b>Semester-II</b>			
Paper- BOT-201	Cytogenetics, Plant Breeding & Biostatistics	100	06
Paper- BOT-202	Biotechnology & Genetic Engineering of Plants	100	06
Paper- BOT-203	Plant Physiology	100	06
Paper- BOT-204	Plant Taxonomy, Ecology & Evolution	100	06
Paper- BOT-205	Practicals Pertaining to Theory Papers- BOT-201, BOT-202, BOT-203, BOT-204	100	06
	<b>TOTAL</b>	<b>500</b>	<b>30</b>
<b>Semester-III</b>			
Paper BOT-301	Plant Development, Reproduction and Economic Botany	100	06
Paper-BOT-302	Conservation Biology	100	06
Paper-BOT-303 (Free Elective Courses)	Plants & Environment (A) / Or Environmental Studies (B)	100	06
Paper-BOT-304 (Allied Elective Courses)	Plant physiology and Developmental biology	100	06
Paper-BOT-305	Advanced Practical	100	06
	<b>TOTAL</b>	<b>500</b>	<b>30</b>
<b>Semester-IV</b>			
Core elective papers (optional):	<b>Only One Special paper + Dissertation + Seminar presentation</b>		
Paper-BOT-401 (A)	Biochemistry and Molecular Biology -I	100	06
Paper- BOT-402 (A)	Biochemistry and Molecular Biology - II	100	06
Paper-BOT-401(B)	Plant Biotechnology -I	100	06
Paper- BOT-402 (B)	Plant Biotechnology -II	100	06
Paper-BOT-401 (C)	Cytogenetics -I	100	06
Paper- BOT-402 (C)	Cytogenetics -II	100	06
Paper-BOT-401 (D)	Environmental Biotechnology-I	100	06
Paper- BOT-402 (D)	Environmental Biotechnology-II	100	06
Paper-BOT-401 (E)	Microbial Technology-I	100	06
Paper- BOT-402 (E)	Microbial Technology-II	100	06
Paper-BOT-401 (F)	Biosystematics-I	100	06
Paper- BOT-402 (F)	Biosystematics-II	100	06
Paper-BOT-403	Dissertation	200	12
Paper-BOT-404	Seminar presentation	100	06
	<b>TOTAL</b>	<b>500</b>	<b>30</b>
	<b>GRAND TOTAL</b>	<b>2000</b>	<b>120</b>





**UTKAL UNIVERSITY**  
**MASTER OF SCIENCE DEGREE COURSE**  
**M.Sc. COMPUTER SCIENCE**  
**UNDER UTKAL UNIVERSITY**  
 (with effect from 2015-2016)

The Course of Study and the Scheme of Examinations

Year / Semester	Subject	Paper	Title of the Paper	Credit	Max. Marks		
					IA	Uni. Exam	Total
I Year I Semester	Core	CS-1.1	Data Structure and Algorithms	4	30	70	100
	Core	CS-1.2	Computer System Architecture	4	30	70	100
	Core	CS-1.3	Database Systems & Implementation	4	30	70	100
	Core	CS-1.4	Discrete Mathematical Structures	4	30	70	100
	Elective I	CS-1.5	(a) Visual Programming (or) (b) Object Oriented Design using UML	4	30	70	100
	Core Practical	CS-1.6	Algorithms Lab	4		100	100
	Core Practical	CS-1.7	Database Lab	4		100	100
I Year II Semester	Core	CS-2.1	Computer Networks	4	30	70	100
	Core	CS-2.2	Advanced JAVA	4	30	70	100
	Core	CS-2.3	Operating System Design	4	30	70	100
	Core	CS-2.4	Theory of Computation	4	30	70	100
	Elective II	CS-2.5	(a)Data Mining (or) (b)Computer Graphics	4	30	70	100
	Core Practical	CS-2.6	JAVA Programming Lab	4		100	100
	Core Practical	CS-2.7	Operating Systems Lab	4		100	100
II Year III Semester	Core	CS-3.1	Artificial Intelligence	4	30	70	100
	Core	CS-3.2	Software Engineering	4	30	70	100
	Core	CS-3.3	Compiler Design	4	30	70	100
	Elective III	CS-3.4	(a) Network Security (or) (b) Cloud Computing	4	30	70	100
	Elective IV	CS-3.5	(a) Embedded System (or) (b) Mobile Computing	4	30	70	100
	Core Practical	CS-3.6	AI Programming Lab	4		100	100
	Core Practical	CS-3.7	Software Engineering Lab	4		100	100
II Year IV Semester		CS-4.1	Comprehensive Viva	4		100	100
		CS-4.2	Project Work and Viva Voce	12		300	300
			Total	100			2500

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# CHOICE BASED CREDIT SEMESTER SYSTEM

P.G. Syllabus  
M.Sc. Applied Geology



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		and Geomorphology		
Theory	3AGLC2	Palaeontology, Applied Micropalaeontology & Quaternary geology	4	100
Theory	3AGLC3	Stratigraphy, Palaeogeography and Marine geosciences	4	100
Theory	3AGLC4	a) Geostatistics and Computer application in Geology b) Environmental geology, Medical geology and Disaster management	2+2	50+50
Practical	3AGLC5	Practicals corresponding to Theory Papers	6	100
		Total	22	500

#### 4th Semester

#### **Core Elective papers (Special papers)**

Theory/ Practical	Paper No.	Title of the course	Credit	Marks
Theory	4AGLCE1	<b>Elective A/B/C/D</b>	4	100
Theory	4AGLCE2	<b>Elective A/B/C/D</b>	4	100
Theory	4AGLCE3	<b>Elective A/B/C/D</b>	4	100
Practical	4AGLCE4	Practicals corresponding to Theory Paper 4AGLCE1 and 4AGLCE2, Seminar, Field report	6	100
Project	4AGLCE5	Project	6	100
		Total	24	500

**Elective A** : Ore Geology

**Elective B** : Applied Hydrogeology and Water Management

**Elective C** : Fuel Geology and Sedimentary Petrology

**Elective D** : Remote Sensing and GIS

The students opting for core elective on any one of the subjects A/B/C/D have to prepare a project on the basis of the work done in the field/laboratory for at least 2 weeks. The concerned student has to present his/her findings before the Teachers council and shall be evaluated by the Board of three internal examiners appointed by the Board of studies / Vice Chancellor. The viva shall be held by an external examiner appointed by the Board of Studies / Vice Chancellor. The distribution of marks is as follows:

1. Report writing : 40

  
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Papers	identification of oreassemblages. Genetic and paragenetic interpretation from megascopic examination of ore assemblages. Reserve calculation and assay problems. Study of X-raydiffractogram for mineral identification. Lab. Record, Field report and Viva voce		
	Seminar		15

**4AGLCE5(A): Ore Geology (Project)**

Project work	Report writing	6	40
	Presentation		30
	Viva Voce		30

  
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Remote Sensing method.			
Seminar			15
<b>4AGLCE5(B): Applied Hydrogeology and Water Management (Project)</b>			
Project work	Report writing	6	40
	Presentation		30
	Viva Voce		30

  
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**Elective C: Fuel Geology and Sedimentary Petrology**  
**4AGLCE1(C): Fuel Geology and Sedimentary Petrology**

Unit	Broad Division	Detail syllabus	Credit	Marks
I	Coal Geology - I	Types of coal, Origin of coal, composition of coal (chemical and maceral composition), coal as plant debris-Lignin, protein, fats, wax etc. ,genetic relationship of plant constituents H/C Vr.O/C diagram. Methods of coal mining.	1	25
II	Coal Geology - II	Coal petrography and its application in carbonization and hydrogenation (Liquefaction). Fires in underground mines and combating methods. Environmental pollution due to coal mining.	1	25
III	Coal Geology - III	Behavior of coal on heating-DTA and Differential Thermo gravimetric (DTG) analysis, plasticity measurement, Infrared analysis, Crossing point temperature analysis of coal, Spontaneous combustion of coals-mechanism and preventive measures.	1	25
IV	Coal Geology - IV	Geological geographical distribution of Indian coal fields, Study of important coal and lignite deposits of India: Gondwana coal fields: Jharia, Raniganj, Talchir and Ib valley coalfields, Tertiary coalfields: Coalfields of Assam & Meghalaya, Neyveli lignite deposits.	1	25

**4AGLCE2(C): Fuel Geology and Sedimentary Petrology**

Unit	Broad Division	Detail syllabus	Credit	Marks
I	Petroleum Geology-I	Origin, migration and entrapment of Petroleum, Characteristics of source and reservoir rocks, structural, stratigraphic and combination traps, Techniques of Petroleum exploration.	1	25
II	Petroleum Geology-II	Geographical and geological distribution of oil and natural gas in India, Study of important Onshore and offshore petroliferous basins: Assam oil fields, Cambay basin, Krishna-Godavari basin, Cauvery basin and Bombay High.	1	25
III	Nuclear Geology-I	Mineralogy and Geochemistry of radioactive minerals, Instrumental techniques of detection and measurement of radioactivity, Radioactive methods of exploration, Utilization of radioisotopes.	1	25
IV	Nuclear Geology-II	Classification of Uranium deposits, Thorium resources of India. Challenges and Prospects of Uranium Industry, Study of important radioactive minerals deposits in India with respect to mineralogy, mode of occurrence and origin, Beneficiation methods, Radioactive waste management.	1	25

**4AGLCE3(C): Fuel Geology and Sedimentary Petrology**

Unit	Broad Division	Detail syllabus	Credit	Marks
I	Sedimentary Petrology - I	Field techniques for study of Sedimentary Rocks- Mapping, palaeocurrent data collection and analysis, study of sedimentary structures, palaeo-hydraulics, interpretation of fluvial channels.	1	25
II	Sedimentary Petrology - II	Study of sedimentary textures and their geological significance, Heavy mineral analysis and significance, sub-surface correlation of sedimentary deposits,	1	25
III	Sedimentary Petrology - III	Preparation of Isopach and Facies maps, Sequence stratigraphy, Methods of sediment transportation by water, estimation of bed load and suspension load. Basin classification and description, sedimentary basins formation - concepts.Sedimentary basins of India	1	25
IV	Sedimentary Petrology - IV	Characteristics of provenance, classification of Sandstone, limestone, conglomerate, Sedimentary environment and facies, Walther's Law	1	25

**4AGLCE4(C): Fuel Geology and Sedimentary Petrology (Practical)**

Practical subjects	Megascopic and microscopic petrography of sedimentary rocks. Rock assemblage and their environmental interpretation. Modal analysis. Size analysis, Heavy mineral analysis, Palaeocurrent analysis. Preparation of isopach maps, lithofacies maps. Construction of vertical sections showing sedimentary cycles and their correlations. Megascopic and microscopic study of coals. Proximate analysis of coals. Coal petrography, Problems related to coal and petroleum	85
	Seminar	15

**4AGLCE5(C): Fuel Geology and Sedimentary Petrology (Project)**

Project work	Report writing	6	40
	Presentation		30
	Viva Voce		30

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**Elective D Remote Sensing and GIS**  
**4AGLCE1(D): Remote Sensing and GIS**

Unit	Broad Division	Detail syllabus	Credit	Marks
I	Principles of Remote Sensing - I	History of remote sensing, Benefits of remote sensing over conventional methods of resource survey, components of remote sensing system, Global and Indian remote sensing satellites. Electromagnetic radiation(EMR), Spectral bands, Atmospheric interactions with EMR, Interactions of EMR with Earth's surface materials- rocks, minerals, soils, water, vegetation . .	1	25
II	Principles of Remote Sensing - II	Remote sensing platforms- types and uses. Sensors-fundamental properties and functions. Sensor parameters- spatial, spectral, temporal and radiometric resolution, types of sensors and basic features of different types of sensors in different satellites- Landsat, SPOT, IRS etc.	1	25
III	Aerial Remote Sensing -I	Basic requirements of aerial photography, planning for photography, Factors influencing image quality, Aerial cameras, Flight direction, Flying height, Forward and lateral overlaps, Time of photography, Information recorded on aerial photographs, preparation of photo index, Aerial mosaics.	1	25
IV	Aerial Remote Sensing -II	Principles of aerial photography, types of aerial photographs, characteristics features of aerial photography- scale, vertical exaggeration, drift and crab.	1	25

**4AGLCE2(D): Remote Sensing and GIS**

Unit	Broad Division	Detail syllabus	Credit	Marks
I	Photogrammetry	Geometry of Aerial photographs, Stereoscopic parallax, Measuring instruments-parallax bar & its use. Stereoscopy, Pseudoscropy, stereoscopic exaggeration, Estimation of slope and dip.	1	25
II	Aerial Photointerpretation- Techniques	Photo elements, visual image interpretation- general procedure, interpretation of aerial photograph and satellite imagery, false colour composite (FCC), stereoscopes, conditions for stereoscopic vision, digital image processing.	1	25
III	Aerial Photointerpretation- Geomorphology	Basic concepts of geomorphology, climatic influence on geomorphic process, Geomorphic cycles: Fluvial, Arid, Glacial, coastal and volcanic. Interpretation of various landforms, Structural and tectonic landforms.	1	25
IV	Aerial Photointerpretations - Geology	Geotechnical analysis, Vegetation analysis, Landuse analysis, Landform analysis, Drainage analysis, Convergence of evidence, Lithological interpretation of Igneous, Sedimentary and Metamorphic rock, interpretation of structural features - folds, faults and unconformity.	1	25

**4AGLCE3(D): Remote Sensing and GIS**

Unit	Broad Division	Detail syllabus	Credit	Marks
I	Remote Sensing Application I	Application of remote sensing techniques in geological and geomorphological mapping, landuse and landcover studies, terrain evaluation, mineral exploration and groundwater-resources evaluation, petroleum exploration	1	25
II	Remote Sensing Application II	Application of remote sensing techniques in agricultural management, forest mapping and management, irrigation and watershed management, engineering site evaluation for dam, reservoir, tunnel and highways	1	25
III	Remote Sensing Application III	Application of remote sensing in environmental hazard managements- floods, landslide and coastal erosion, soil mapping, waste land mapping, sustainable development studies	1	25
IV	GIS and GPS	Fundamentals of geographic information system (GIS), data structure of GIS, Raster and vector data, Representation of geographical entities by raster and vector methods. Application of GIS in various fields of geology. Elementary knowledge on Global Positioning System(GPS)	1	25

**4AGLCE4(D): Remote Sensing and GIS (Practical) 6 credits and 100 marks**

Practical subjects	Marking of principal points. Determination of scale. Tracing of details from aerial photos and imageries. Stereoscopic test, Use of pocket and mirror stereoscopes, use of parallax bar. Measurement of heights and determination of slopes from photos. Estimation of dip of beds. Study of topographic maps to identify typical landforms. Preparation of geologic, geomorphic and land use maps from aerial photos and imageries. Characterisation of typical geologic formations of Odisha i.e. alluvial deposits, laterite deposits, Eastern Ghats, Gondwana rocks etc. Lab. Records, Field reports/Project report and viva-voce.	85
	Seminar	15

**4AGLCE5(D): Fuel Geology and Sedimentary Petrology (Project)**

Project work	Report writing	6	40
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# COURSE CURRICULUM & SYLLABUS

## **Master of Commerce (M.Com.)**

(Academic Session 2022-23 Onwards)

**P.G. DEPARTMENT OF COMMERCE,**



**PRANANATH COLLEGE (AUTONOMOUS)**

**PRANANATH COLLEGE (AUTONOMOUS),  
KHORDHA**

[Affiliated to: Utkal University, Vani Vihar]

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# Course Structure

Paper Code	Subject	Category	Marks	Credit Points
<b>Semester I</b>				
MC 1.1	Advanced Accounting			
MC 1.2	Macro Economics	Core	100	4
MC 1.3	Organizational Behavior	Core	100	4
MC 1.4	Corporate Legal Framework	Core	100	4
MC 1.5	Financial Modeling and Valuation	Core	100	4
MC 1.6	Digital Marketing	Core	100	4
<b>Total</b>			<b>600</b>	<b>24</b>
<b>Semester II</b>				
MC 2.1	Advanced Cost and Management Accounting	Core	100	4
MC 2.2	Strategic Management	Core	100	4
MC 2.3	International Business and Environment	Core	100	4
MC 2.4	Quantitative Techniques and Operational Research	Core	100	4
MC 2.5	Human Capital Development	Core	100	4
MC 2.6	Research Methodology & Summer Internship Program	Core	100	4
<b>Total</b>			<b>600</b>	<b>24</b>
<b>Semester III</b>				
MC 3.1	Forensic Accounting and Auditing	Core	100	4
MC 3.2	Business Data Analytics	Core	100	4
MC 3.3	Basic Econometrics	Core	100	4
<b>Specialization (Accounting and Finance)</b>		Elective	100	4
MC 3.4.1	IFRS and IND AS	Elective	100	4
MC 3.4.2	Corporate Tax Planning and GST	Elective	100	4
MC 3.4.3	International Finance	Elective	100	4
<b>Specialization (Marketing and Human Resource Management)</b>		Elective	100	4
MC 3.5.1	Consumer Behavior	Elective	100	4
MC 3.5.2	International Marketing	Elective	100	4
MC 3.5.3	Human Resource Planning and Development	Elective	100	4
<b>Specialization (Banking and IT)</b>		Elective	100	4
MC 3.6.1	Bank Management and FinTech	Elective	100	4
MC 3.6.2	Treasury, Investment and Risk Management	Elective	100	4
MC 3.6.3	International Banking and Finance	Elective	100	4
<b>Total</b>			<b>600</b>	<b>24</b>
<b>Semester IV</b>				
MC 4.1	Dynamics of Banking & Insurance	Core	100	4
MC 4.2	Investment Management	Core	100	4
MC 4.3	Viva and Dissertation	Core	200	8
<b>Specialization (Accounting and Finance)</b>		Elective	100	4
MC 4.4.1	International Accounting	Elective	100	4
MC 4.4.2	Corporate Reporting Practices	Elective	100	4
MC 4.4.3	Risk Management and Derivative	Elective	100	4
<b>Specialization (Marketing and HR)</b>		Elective	100	4
MC 4.5.1	Customer Relationship Management	Elective	100	4
MC 4.5.2	Supply Chain Management and Logistics	Elective	100	4
MC 4.5.3	Human Resource Audit and Human Capital accounting	Elective	100	4
<b>Specialization (Banking and IT)</b>		Elective	100	4
MC 4.6.1	Data Science for Business	Elective	100	4
MC 4.6.2	Forex Management	Elective	100	4
MC 4.6.3	Banking Law	Elective	100	4
<b>Total</b>			<b>700</b>	<b>28</b>
<b>Grand Total</b>			<b>2500</b>	<b>100</b>

  
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## SEMESTER- 2

### PAPER- 201.1 (Human Resource Management-I)

Concept, Philosophy, Scope and Development of Human Resource Management, Growth of HRM functions in India, Human Resource Planning, Factors Influencing HR Planning, Corporate Planning, HR Policy- Implementation, Plan and Programme, Recruitment, Selection & Placement.

### PAPER- 201.2 (Industrial Relations-II)

Industrial Peace and Harmony, Code of discipline and Code of Conduct in Industry, Domestic Inquiry, Collective Bargaining- Status and Trend in India, Worker's Participation in Management Status & Trend, Grievance Management- Hotstove Rule, Conflict Management- Methods, Approach, Govt. Interventions ( Conciliation, Arbitration and Adjudication), Contemporary Trends of Industrial Relations in India.

### PAPER- 201.3 (Labour Legislation-II)

Legislations Relating to IR: Industrial Disputes Act, 1948; Trade Unions Act, 1926.

Legislations Relating to Wages and Bonus: Payment of Wages Act, 1936; Minimum Wages Act, 1948; Payment of Bonus Act, 1965.

Legislations Relating to Social Security: Workmen's Compensation Act, 1923; ESI ACT, 1948; EPF Act, 1952; Maternity Benefit Act, 1961; Payment of Gratuity Act, 1972; Pension and Deposit Linked Insurance Scheme, 1976.

### PAPER- 201.4 (Labour & Managerial Economics)

Nature and scope of Labour Economics, Labour Problems of Developing Economy, Structure, Composition & Extent of Indian Labour Force, Basic of Labour Market, Supply & Demand.

Employment: Theories of Employment, Technology & Employment, Unemployment & Underemployment.

Wages: Economics of wages, Minimum, Living & Fair wages, Wage Policy for Developing Economy.

Managerial Economics: Concept, Managerial Economics and Business Decisions, Production Function, Return to Scale in Production, Optimisation in Production, Cost, Cost Output Relationship, Cost of Multiple Products, Break Even Analysis.

Theories of Price, Price Discrimination, Profit, Managerial Objectives, Profit Maximisation.

Capital Budgeting, Process, Investment, Appraisal, Uncertainty and Capital rationing.

### PAPER- 201.5 (Management Information System & Computer Application)

MIS: Automation of Information Processing, Computer Operating System, Types of Data Processing, Information Systems for Operational Control, Management control and Strategic Planning, Structure of MIS based on Organization Function, Application in HRM, Transaction Processing, Word and Text Processing, Computer Graphics, Computer based Message System, System Development Life Cycle.

Computer Application: Computer Fundamentals- Stand alone Computers, Computer Network, Using Office Suite (LOTUS, COREL, MICROSOFT), Computer Languages- BASIC, C++, Database Organization and Database Management System, Internet.

### PAPER-201.6 (Summer Training Report)

Summer Training Report- 75

Presentation- 25 (For at least 10 minutes in presence of all faculty members and an External)

  
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## SEMESTER-4

### PAPER- 401.1 (Organizational Behaviour-II)

Manager as a Leader, Effective Leadership, Theories of Leadership, Decision Making in Organization, Rational Decision and Decision Making Techniques, Group Dynamics, Small Group Behaviour, Inter personal Competence (Johari Window).

### PAPER- 401.2 (Human Resource Development-II)

Concept of Managing Change, Models of Organizational Change, Consulting, Approaches of Change- Manager as a Change agent, Internal change agent, External change agent (Consultant), Organizational Climate and Change, Organizational Culture and Managerial Ethos, Managing Change, Organizational Development, Alternative Intervention, Institution Building, Employee Counselling- Meaning, Need and Types, Process, Problem Identification, Strategy and Skill Relationship, Counselling Environment.

### PAPER- 401.3 (Labour Administration & Social Security)

Labour Administration: Scope and Function in India and in Orissa, Labour Administration Machineries in India and Orissa, Labour Welfare- ILO & Labour Welfare.

Role & Status of Labour Welfare Officer, Welfare work inside the Factory and outside, Child Labour (Regulation & Abolition) Act, 1986.

Social Security: Definition and Scope of Social Security, Social Security in India, Social Assistance and Social Insurance, Global Phenomena of Social Security, International Agencies and Social Security, Social Security in USA, UK, Germany.

### PAPER- 401.4 (Business Environment & Strategic Management)

Role of Business in Modernisation of Society, Business Philosophy and Business Style, Type of Ownership- Growth of Business & Industry, Social Responsibility of Business, Business and Political System, Comparative Business Environment- MRTP & FERA, Globalisation, Change in Business Style, Development of Global Managers, e- business.

Strategic Management: BCG Matrix, SWOT Analysis, Strategic Objective, Strategic Alternatives, Choice Strategy Implementation and Evaluation.

### PAPER - 401.5

Seminar Presentation (Group) - 50 (In presence of all Faculty members and two Externals)

Comprehensive Viva- Voce- 50

### PAPER-401.6

Dissertation- 75

Viva-Voce- 25

In the Dissertation Viva-Voce two externals (One from academics and one from industry) will be present.

  
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**PRACTICUM : SCHOOL INTERNSHIP**

Full Marks : 50+50 = 100

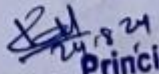
**School Internship**

Each students will prepare 10 (ten) Lesson Plans on a school subject under the supervision of a faculty member of the Department. Then each student will deliver 10 (ten) Lessons in an elementary school/High school on a school subject through these lesson plans using appropriate technology and assessment tools.

Distribution of marks shall be as follows :

Teaching practice	: 10+40
Viva-voce	: 10+40
Total	: 100

The practical examination will be conducted in the presence of both the internal and external examiners.

  
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PAPER 2176

A. Data Analysis and Report Preparation (100)

B. Viva-Voce (100)

Full Marks : 100+100 = 200

Each candidate shall have to submit a dissertation on a relevant educational topic under the supervision of a member of the staff of the department. The dissertation must be submitted prior to the date prescribed for filling in the application form for admission into the said examination failing which the candidate shall not be allowed to sit for the examination. The dissertation shall be evaluated jointly by an external and internal examiner on the basis of relevance of the topic, quality of research input and the quality of presentation. There shall also be an open viva-voce test where all the students of the PG and UG (Hons) of the department will remain present and participate in the discussion of the paper. The candidate will be evaluated on the basis of his/her knowledge of the topic, content, quality of work followed, style of presentation and clarification of doubts raised by the participants or any other aspect of the research work that the examiners would consider suitable.



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 VANI VIHAR, BHUBANESWAR

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**COURSES OF STUDIES FOR BBA PROGRAMME**  
(Effective from 2016 Admission Batch)

<b>1<sup>st</sup> Semester</b>			
Code	Subject	Credit	Marks
101	Introduction to Business	4	100
102	English Language and Literature	4	100
103	Quantitative Techniques for Management	4	100
104	Basic Financial Accounting	4	100

<b>2<sup>nd</sup> Semester</b>			
Code	Subject	Credit	Marks
201	Economics	4	100
202	Management Theory and Practice	4	100
203	Cost and Management Accounting	4	100
204	Computer for Management (including practical)	4	100

<b>3<sup>rd</sup> Semester</b>			
Code	Subject	Credit	Marks
301	Psychology for Management	4	100
302	Business Ethics and Corporate Governance	4	100
303	Introduction to Banking and Insurance	4	100
304	Business and Corporate Law	4	100
305	Communicative English	2	50

<b>4<sup>th</sup> Semester</b>			
Code	Subject	Credit	Marks
401	Financial Management	4	100
402	Marketing Management	4	100
403	Human Resource Management	4	100
404	Production and Operation Management	4	100
405	Environmental Studies	2	50

<b>5<sup>th</sup> Semester</b>			
Code	Subject	Credit	Marks
501	Organizational Behavior	4	100
502	Financial Markets and Institutions	4	100
503	Advertisement and Sales Promotion	4	100
504	Management Information System and DSS(including practical)	4	100
505	Indian Society and Culture	2	50

<b>6<sup>th</sup> Semester</b>			
Code	Subject	Credit	Marks
601	Research Methodology	4	100
602	Entrepreneurship and Small Business Management	4	100
603	Organizational Change and Development	4	100
604	Dissertation and Viva-voce	4	100
605	E-Business	2	50

  
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