

Structure /Pattern of syllabus- S.Y.B.Sc.

Title of the course – **Gg 211: GEOGRAPHY OF RESOURCES – I**
(Semester I) From June 2014

1. Preamble of the syllabus
 - i. To introduce the students to the basic concepts in Geography of Resources.
 - ii. To acquaint the students to fundamental concepts of resources.
 - iii. To acquaint the students with past, present and future utility and potentials of resources at regional, national and global levels.
 - iv. To make aware the students about problems of utilization and conservation in the view of sustainable development.
2. Introduction: Pattern –**Semester (10 marks internal -40 marks University Per Semester)**
3. Eligibility- **F.Y.B.Sc pass**
4. Examination-
 - A. Pattern of examination-
 - i (Internal Semester end and University exam),**
 - ii. Pattern of question paper- 10-40**

Internal Exam- 30 Marks = (converted to 10 marks)

University Exam- 40 Marks =

- B. Standard of passing- Internal -04- University -18 = Semester marks 22**
- C. ATKTK rules- Yes**
- D. Award of class- S.Y.B.Sc. Pass**
- E. External students- No**
- F. Setting of question papers / pattern of question paper**

Internal Exam- 30 Marks = (converted to 10 marks)

- Question 1. Answers in 20 words- 20 marks (any 10 out of 13)
- Question 2. Write short notes -10 marks (any 2 out of 4)

University Exam- 80 Marks =

Question 1. Answers in two to three sentence each - 10 marks (any 10 out of 13)

Question 2. Write short Note -10 marks (any 2 out of 4)

Question 3. Answers in 100 words- 10 marks (any 2 out of 4)

Question 4. Answers in 200 words- 10 marks (any 1 out of 2)

G. Verification / Revaluation- Yes

5. Structure of the Course

a. Compulsory paper- **S.Y.B.Sc. Special**

b. Optional paper- **No**

c. Question paper and papers etc - **One**

d. Medium of instructions- **English**

6. Equivalence of previous syllabus along with propose syllabus- **yes**

7. University terms- **Semester**

8. Subject wise detail syllabus – **As per attached sheets**

9. Recommended books- **Mentioned in Syllabus**

Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

Structure /Pattern of syllabus- S.Y.B.Sc.

Title of the course – **Gg 211: GEOGRAPHY OF RESOURCES – II**
(Semester II) From June 2014

1. Preamble of the syllabus
 - i. To acquaint the students to fundamental concepts of resources.
 - ii. To acquaint the students with past, present and future utility and potentials of resources at regional, national and global levels.
 - iii. To make aware the students about problems of utilization and conservation in the view of sustainable development.
2. Introduction: Pattern –Semester (10 marks internal -40 marks University Per Semester)
3. Eligibility- F.Y.B.Sc pass
4. Examination-
 - A. Pattern of examination-
 - i (Internal Semester end and University exam),**
 - ii. Pattern of question paper- 10-40**

Internal Exam- 30 Marks = (converted to 10 marks)

University Exam- 40 Marks =

- B. Standard of passing- Internal -04- University -18 = Semester marks 22**
- C. ATKT rules- Yes**
- D. Award of class- S.Y.B.Sc. Pass**
- E. External students- No**
- F. Setting of question papers / pattern of question paper

Internal Exam- 30 Marks = (converted to 10 marks)

Question 1. Answers in 20 words- 20 marks (any 10 out of 13)

Question 2. Write short notes -10 marks (any 2 out of 4)

University Exam- 80 Marks =

Question 1. Answers in two to three sentence each - 10 marks (any 10 out of 13)

Question 2. Write short Note -10 marks (any 2 out of 4)

Question 3. Answers in 100 words- 10 marks (any 2 out of 4)

Question 4. Answers in 200 words- 10 marks (any 1 out of 2)

G. Verification / Revaluation- Yes

5. Structure of the Course

a. Compulsory paper- **S.Y.B.Sc. Special**

b. Optional paper- **No**

c. Question paper and papers etc - **One**

d. Medium of instructions- **English**

6. Equivalence of previous syllabus along with propose syllabus- **yes**

7. University terms- **Semester**

8. Subject wise detail syllabus – **As per attached sheets**

9. Recommended books- **Mentioned in Syllabus**

Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

Structure /Pattern of syllabus- S.Y.B.Sc.

Title of the course – **Gg 212: Watershed Management – I**
(Semester I) From June 2014

1. Preamble of the syllabus
 - i. To acquaint the students with concepts in Watershed Management.
 - ii. To familiarize the students with the importance of Watershed Management.
2. Introduction: Pattern –Semester (10 marks internal -40 marks University Per Semester)
3. Eligibility- F.Y.B.Sc pass
4. Examination-
 - A. Pattern of examination-
 - i (Internal Semester end and University exam),**
 - ii. Pattern of question paper- 10-40**

Internal Exam- 30 Marks = (converted to 10 marks)

University Exam- 40 Marks =

- B. Standard of passing- Internal -04- University -18 = Semester marks 22**
- C. ATKT rules- Yes**
- D. Award of class- S.Y.B.Sc. Pass**
- E. External students- No**
- F. Setting of question papers / pattern of question paper

Internal Exam- 30 Marks = (converted to 10 marks)

- Question 1. Answers in 20 words- 20 marks (any 10 out of 13)
- Question 2. Write short notes -10 marks (any 2 out of 4)

University Exam- 80 Marks =

- Question 1. Answers in two to three sentence each - 10 marks (any 10 out of 13)
- Question 2. Write short Note -10 marks (any 2 out of 4)
- Question 3. Answers in 100 words- 10 marks (any 2 out of 4)
- Question 4. Answers in 200 words- 10 marks (any 1 out of 2)

G. Verification / Revaluation- Yes

5. Structure of the Course

a. Compulsory paper- **S.Y.B.Sc. Special**

b. Optional paper- **No**

c. Question paper and papers etc - **One**

d. Medium of instructions- **English**

6. Equivalence of previous syllabus along with propose syllabus- **yes**

7. University terms- **Semester**

8. Subject wise detail syllabus – **As per attached sheets**

9. Recommended books- **Mentioned in Syllabus**

Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

Structure /Pattern of syllabus- S.Y.B.Sc.

Title of the course – **Gg 212: Watershed Management – II**
(Semester II) From June 2014

1. Preamble of the syllabus
 - i. To acquaint the students with concepts in Watershed Management.
 - ii. 2. To familiarize the students with the importance of Watershed Management.
2. Introduction: Pattern –Semester (10 marks internal -40 marks University Per Semester)
3. Eligibility- F.Y.B.Sc pass
4. Examination-
 - A. Pattern of examination-
 - i (Internal Semester end and University exam),**
 - ii. Pattern of question paper- 10-40**

Internal Exam- 30 Marks = (converted to 10 marks)

University Exam- 40 Marks =

- B. Standard of passing- Internal -04- University -18 = Semester marks 22**
- C. ATKT rules- Yes**
- D. Award of class- S.Y.B.Sc. Pass**
- E. External students- No**
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Internal Exam- 30 Marks = (converted to 10 marks)

- Question 1. Answers in 20 words- 20 marks (any 10 out of 13)
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University Exam- 80 Marks =

- Question 1. Answers in two to three sentence each - 10 marks (any 10 out of 13)
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- Question 3. Answers in 100 words- 10 marks (any 2 out of 4)
- Question 4. Answers in 200 words- 10 marks (any 1 out of 2)

G. Verification / Revaluation- Yes

5. Structure of the Course
 - a. Compulsory paper- **S.Y.B.Sc. Special**
 - b. Optional paper- **No**
 - c. Question paper and papers etc - **One**
 - d. Medium of instructions- **English**
6. Equivalence of previous syllabus along with propose syllabus- **yes**
7. University terms- **Semester**
8. Subject wise detail syllabus – **As per attached sheets**
9. Recommended books- **Mentioned in Syllabus**

Qualification of teacher- **M.A./M.Sc(Geography), as per UGC and University norms**

Equivalence of S. Y. B. Sc. Geography Syllabus

Course No.	Semester	Paper No.	Old Syllabus	New Syllabus
Gg 211	Sem I	Paper I	Fundamentals of Geography of Resources	Geography of Resources – I
Gg 221	Sem II	Paper I	Distribution, Development and Planning of Resources	Geography of Resources – II
Gg 212	Sem I	Paper II	Introduction to Hydrology	Watershed Management - I
Gg 222	Sem II	Paper II	Surface and Groundwater Hydrology	Watershed Management - II
Gg 201	Annual	Paper III	Map Projections & Surveying	Fundamentals of Geographical Analysis

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Gg 201: Fundamentals of Geographical Analysis

Effective from June 2014

Workload:-Four periods per week per batch (12 students per batch)

*Examination of the course will be conducted at the end of academic year.

- *Objectives:**
- 1) To enable the students to use various projections to prepare maps.
 - 2) To acquaint the students with the principles of surveying, its importance and Utility in the geographical area.
 - 3) To introduce the importance and basic principles of GPS.

Sr. No.	Topics	Periods
I. Cartographic Techniques		
1	Data representation by various techniques	
	Graphs and Diagrams a) Simple Line Graph b) Polygraph c) Simple bar graph d) Compound Bar Graph e) Pie Diagram (Chart) f) Choropleth mapping (Plotting and presentation using computer)	06
II. Map Projections		
1	a) Meaning and definition of map projections. b) Classification of map projections.	2
	<i>Construction and study of the following Projections.</i>	
	a) Zenithal projections. i) Zenithal polar Gnomonic projection. ii) Zenithal polar stereographic projection.	6
2	b) Conical projections. i) Simple conical projection with one standard parallel. ii) Bonne's projection.	8
	c) Cylindrical projections. i) Cylindrical equal area projection. ii) Mercator's projection.	8
	d) Conventional map projections. i) Sinusoidal projection. ii) Mollweide's projection.	8
3	Identification and choice of map projections. (Note:-construction of above map projections with properties and uses, for each group one example from each hemisphere)	2
III. Surveying		
1	a) Meaning and definition of surveying. b) Types of surveying.	4
2	Plane Table Survey.	8

	a) Equipments required for plane table survey b) Plane table survey-Radiation method. c) Plane table survey-Intersection method.	
3	Prismatic Compass Survey. a) Systems of expressing bearing- i) Whole circle System. ii) Quadrantal system. b) Prismatic compass traverse methods- i) Open Traverse. ii) Closed Traverse. c) Correction of bearing and closing of error by Bowditch method.	10
4	Dumpy level (Examples) a) Collimation method. b) Rise and fall method.	4
5	Global position system (GPS) a) Introduction of GPS b) Importance of GPS and uses of GPS c) Finding out latitude (X), longitude (Y), and Altitude (Z) values with the help of GPS d) Plotting of X and Y on graph paper	6
6	Fields excursion report / Village survey report. One short tour and one long tour of geographical Interested places anywhere in the country.	8

Note :-

- i. Use of stencils, log tables, calculators and computers are allowed.
- ii. Journal should be completed and duly certified by practical in charge and Head of the Department.
- iii. Internal and External examiner should set a jointly question paper for each batch.

Reference Books

- 1) Bygott, j.1955.Map work and practicalGeography.5 the Edition.
- 2) Davis, R.E.and Foote, F.s.1953.surveying, McGraw-HillBook Co.New York.
- 3) Deshpande, G.B.1991.surveying, Evrest publishing house, pune.
- 4) Kale.R.G.and Walvekar, G.V.1980surveying parts I.
- 5) Kanatkar T.P.and Kulkarni S.V. surveying and leveling, part I.pune vidyarthi Griha Prakashan, pune.
- 6) Khan M.Z.a.1998, Text book of Practical Geography, concept publishing company, New Delhi.
- 7) Sing & Dutta.Map work and Practical Geography.
- 8) Sing R.L. & Singh R.P.B, 1993 Elements of Practical Geography Kalyani publisher, New Delhi.
- 9) Steers J, A.1993, A study of Map Projections.
- 10) Gopal Singh. Map Work and Practical Geography, Vikas publishing house, New Delhi.

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Gg 211: GEOGRAPHY OF RESOURCES - I

(Semester I)

Effective from June 2014

Objectives:

- 1) To acquaint the students to fundamental concepts of resources.
- 2) To acquaint the students to past, present and future utility and potentials of resources at regional, national and global levels.
- 3) To make aware the students about problems of utilization and conservation in the view of sustainable development.

Sr. No.	Unit	Subunit	Periods
1	Introduction to Resource Geography.	a) Meaning and Definition of Resource. b) Importance of study of resources. c) Components of resources, natural and human.	06
2	Classification of Resources.	a) Basis of Classification. renewable and non-renewable resources. b) Importance of biotic and abiotic renewable resources. c) Importance of biotic and abiotic non-renewable resources.	10
3	Forest Resources.	a) Use of forest resources. b) Environmental significance of forests. c) Meaning, causes and effects of deforestation. d) Remedial measures to conserve forest resources.	08
4	Water Resources.	a) Water as a resource. b) Sources of water. c) Uses of water resources-domestic, agriculture, industry, transportation, tourism etc. d) Methods of conservation of water resources.	08
5	Land Resources.	a) Importance of land resources. b) Use of land resources: agriculture, forest, mining, settlements & other. c) Land degradation due to agriculture, mining and deforestation. d) Methods of conservation of land resources.	08

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Gg 211: GEOGRAPHY OF RESOURCES - II
(Semester II)
 Effective from June 2014

Objectives:

- 1) To acquaint the students to fundamental concepts of resources.
- 2) To acquaint the students to past, present and future utility and potentials of resources at regional, national and global levels.
- 3) To make aware the students about problems of utilization and conservation in the view of sustainable development.

Sr. No.	Unit	Subunit	Periods
1	Mineral Resources.	a) World distribution and production of iron ore, bauxite in major Countries. b) Distribution and production of iron ore, bauxite in India.	08
2	Energy Resources.	a) World distribution and production of coal, petroleum and natural gas in India & World. b) Significance and utilization of solar, wind and nuclear energy resources in India and world.	12
3	Human Resources.	a) Population as resource. b) World distribution of population. c) Population distribution in India. d) Concepts of over, optimum and under population.	08
4	Resources and Economic Development	a) Role of land resources in economic development. b) Role of water resources in economic development. c) Role of mineral resources in economic development. d) Role of energy resources in economic development.	08
5	Planning of Resources.	a) Concept of resource planning. b) Need of resource planning. c) Resource planning with reference to India.	04

Reference Books (for sem I and II):

1. Chempremave, J. D., 1989. Geography and Energy. Longman Scientific and Technical Series. U. K.
2. Daji, J. A., Kadam, J. R. and Patil, N. D. 1996. A Textbook of Soil Science. Media Promoters & Publishers Pvt. Ltd. Bombay.
3. Gurjar & Jat. 2008. Geography of Water Resources. Rawat Publications. Jaipur.
4. Morgan – Land , Soil, Water.
5. Negi, B. S., 1997. Geography of Resources. Kedarnath Ramnath. Meerut.
6. Owen, S. and Owens, P.L., 1991. Environment Resources and Conservation. Cambridge University Press. New York.
7. Ray, S., 2008. Natural Resources, Organization & Technology Linkages. Rawat Publication. Jaipur.
8. Saxena, H. M. , 2006. Environmental Geography. Rawat Publications, Jaipur.
9. Singh, S., 2004. Environmental Geography. Prayag Pustak Bhawan. Allahabad.
10. Skinner, B. J., 1969. Earth Resources. Prentice-Hall, Englewood Cliffs, N. J.
11. World Resources Institute (WRI). 1994. World Resources 1994-95. Oxford University Press. New York.
12. Zimmerman , E. W., 1951. – World Resources & Industries.

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S.Y. B. Sc.
Gg 212: Watershed Management - I
(Semester I)
From June 2014

- Objectives:** 1. To acquaint the students with concepts in Watershed Management.
2. To familiarize the students with the importance of Watershed Management.

Sr. No.	Unit	Subunit	Periods
1	Concept of watershed management	Definition, Principals, objectives, Need of watershed management, Identification of problems in watershed management	8
2	Characteristics of watershed	Delineation, Geomorphological Characteristics, linear aspects, aerial aspects and relief aspects, land use, runoff characteristics	8
3	Hydrological Process in Watershed	Hydrological cycle, precipitation, interception, infiltration, evaporation, evapo-transpiration, surface runoff, ground water-flow, water budget, Ecological characteristics of the river	8
4	Soils in a Watershed	a) Soil characteristics- Physical, Hydrological b) Processes of soil erosion- Erosion due to water and wind, c) Measurement and estimation of soil erosion – Universal Soil Loss Equation	8
5	Land Capability Classification	Criteria, methods & Need- Criteria for classification, methods of classification, Need for land capability classification	8

Reference Books:

1. Watershed Planning and Management, 2nd Edition, Dr. Rajvir Singh, Yash Publishing House, Bikaner, India.
2. Watershed Management, V. V. Dhruvanarayana, G. Sastry, U. S. Patnaik.
3. Watershed Manual – A Guide for Watershed Development Practitioners and Trainers, B. K. Kakde, BAIF Development Research Foundation, Pune.
4. Soil and Watershed Conservation Engineering, 2nd Edition, R. Suresh – Standard Publication Distributors, Delhi.
5. Soil and Water Conservation Engineering, 4th Edition, G. O. Schwab, etc. John Wiley & Sons.
6. Integrated Watershed Management: A Field Manual for Equitable, Productive and Sustainable Development. Rajesh Rajora. Rawat Publications, Jaipur.

UNIVERSITY OF PUNE
S.Y. B. Sc.
Gg 212: Watershed Management -II
(Semester II)
From June 2014

Objectives: 1. To acquaint the students with concepts in Watershed Management.
2. To familiarize the students with the importance of Watershed Management.

Sr. No.	Unit	Subunit	Periods
1	Resource Appraisal of a Watershed	Methods- Survey, Database Generation, Resource Mapping	8
2	Introduction to Watershed Planning	Importance of Watershed planning, need of planning for small rain fed catchments, Importance of watershed planning in national development.	8
3	Design and Plan for watershed Planning	Production oriented sustainability, food security, livelihood security, participatory planning, equity, capacity building, cost sharing, and restoration of landscape.	8
4	Water and soil conservation measures	Water Conservation- Nala bund, water harvesting techniques, storage of harvested water, traditional methods. soil conservation- contour bunding, gully plugging, trench cum mound, leveling, check dams	8
5	Watershed Development Programmes	A forestation, plantation of grass and trees, Rural and integrated watershed development plan, Watershed based farming system, crop-production, dryland farming, livestock production, energy plants.	8

Reference Books:

1. Watershed Planning and Management, 2nd Edition, Dr. Rajvir Singh, Yash Publishing House, Bikaner, India.
2. Watershed Management, V. V. Dhruvanarayana, G. Sastry, U. S. Patnik.
3. Watershed Manual – A Guid for Watershed Development Practitioners and Trainers, B. K. Kakde, BAIF Development Research Foundation, Pune.
4. Soil and Watershed Conversation Engineering, 2nd Edition, R. Suresh – Standard Publication Distributors, Delhi.
5. Soil and Water Conservation Engineering, 4th Edition, G. O. Schwab, etc. John Wiley & Sons.
6. Integrated Watershed Management: A Field Manual for Equitable, Productive and Sustainable Development. Rajesh Rajora. Rawat Publicatios, Jaipur.