M.A./M.Sc. (Semester – I) Examination, 2010 GEOGRAPHY Gg-101 : Principles of Geomorphology (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define Geomorphology and write an explanatory note on nature and scope of geomorphology.
- 2. Discuss the sources of knowledge to study the interior of the Earth.
- 3. Define the term weathering and explain in detail the various kinds of weathering processers.
- 4. Define drainage basin and explain different types of drainage basins with diagram.
- 5. Write an account of mechanics of erosion, transportation and deposition of wind in desert region.
- 6. What is slope profile ? Explain the theory of slope decline in detail.
- 7. Write notes on **any two** :
 - a) Endogenetic forces.
 - b) Mass movement.
 - c) Erosional landforms created by waves.

B/I/10/550

[3726] – 101

M.A./M.Sc. (Semester – I) Examination, 2010 GEOGRAPHY Gg-102 : Principles of Climatology (2008 Pattern)

Time : 3 Hours

Max. Marks : 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks
3) Use of map stencils is allowed.

- 1. Differentiate between weather and climate. What are the basic subdivisions of Climatology and how Modern Climatology has been developed ?
- 2. What is heat balance ? Discuss terrestrial heat budget with a diagram.
- 3. What is temperature inversion ? Describe different conditions of temperature inversion.
- 4. What is atmospheric pressure ? How it is measured ? What are the factors controlling the atmospheric pressure ?
- 5. What are various models of general circulation of the atmosphere ? Describe eddy theory of the atmosphere.
- 6. What is condensation ? Describe the factors affecting condensation.
- 7. Write notes on **any two** :
 - i) Changes of state of water.
 - ii) Types of fronts.
 - iii) Components of atmosphere.

B/I/10/555

[3726] – 102

M.A./M.Sc. (Semester – I) Examination, 2010 GEOGRAPHY Gg-103 : Principles of Economic Geography (2008 Pattern)

Time: 3 Hours

Max. Marks: 80

- N.B.: 1) Attempt any four questions.
 2) All questions carry equal marks.
 3) Draw figures/maps wherever necessary.
 4) Use of map stencils is allowed.
- 1. Give the meaning of hypothesis and discuss the testing of hypothesis.
- 2. Discuss the significance of natural resources in economic development.
- 3. Discuss the importance of variations in cost of transportation and demand.
- 4. Critically examine Myrdal's model of economic development.
- 5. Discuss the structure and problems of international trade.
- 6. Explain the impact of green revolution in the economic development of India.
- 7. Write notes on **any two** :
 - a) Spatial variation in the factor cost
 - b) Significance of human resources
 - c) Rostow's model.

B/I/10/455

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg-201 : Quantitative Techniques in Geography (2008 Pattern)

Time : 3 Hours

N.B. :1) Attempt any four questions.

- 2) Use of calculator and statistical table are allowed.
- 3) The figures in the **right** hand side bracket indicate **full** marks.
- 1. a) Write a short note on spatial and temporal data.
 - b) Calculate standard deviation and variance for the following data. The table shows the number of students falling in different classes according to the marks obtained in the Geography paper. (14)

Class	25-	30-	35-	40-	45-	50-	55-	60-	65-	70-	75-	80-
	29	34	39	44	49	54	59	64	69	74	79	84
Frequency	1	0	3	6	6	6	7	4	4	1	1	1

- 2. a) Write a note on skewness and kurtosis.
 - b) In an area of stony waste the mean size of the clast was 16 mm with standard deviation of 2 mm. If the sample of clast is selected at random, find the probability that it will have a size : (14)
 - i) Between 10 mm and 21 mm
 - ii) More than 18 mm
 - iii) Exactly 10 mm
 - iv) At least 17 mm

(6)

Max. Marks : 80

(6)

[3726] - 201

- 3. a) Describe the Binomial Probability Distribution.
 - b) The following table gives decadal population of India. Using least square method, obtain best fit equation. Estimate the population of India for 2011. (14)

Year	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
Population	252	251	279	318	361	439	548	684	846	1027

(Population in million)

- 4. a) Write properties of time series.
 - b) The table provides data of number of trees (X) and moisture contain in the soil (Y) of a species in randomly selected quadrants. Find out the Pearson's product moment correlation coefficient. Test the level of significance at 0.05 and interpret the value. (14)

No. of treees (X)	47	35	28	27	44	66	60	75	73	45
Moisture content (Y) in %	21	18	9	25	27	38	33	48	49	32

5. A sample survey of 200 university students was carried out to know their opinion regarding the student representative on University Management Council. Apply the Chi square test to test the hypothesis at 0.05 level of significance to know whether there is significant difference in opinion among the three groups. (20)

	Strongly Agree	Agree	No opinion	Disagree	Strongly Disagree
Group 1	12	18	4	8	12
Group 2	48	22	10	8	10
Group 3	10	4	12	10	12

-2-

(6)

(6)

6. The following data represents rainfall in cm (X) and yield of paddy in quintals (Y) per hectare in a district. Find regression equation for the data. Calculate explained variance and residuals from regression equation and comment on it. (20)

X	113	102	95	120	140	130	125
Y	18	15	13	19	11	20	17

- 7. Write short notes on **any two** :
 - a) Concept of residuals and explained variance
 - b) Unbiased random sample
 - c) Grouped and ungrouped data.

B/1/10/765

-3-

(20)

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg-210 : Tropical Geomorphology (2008 Pattern)

Time : 3 Hours

Max. Marks : 80

Instructions : i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of map stencils is allowed.

- 1. Define tropics and discuss the pecularities of the tropical climate.
- 2. Describe the nature and development of deep weathering profile in the tropics.
- 3. Distinguish between duricrust and laterite and give an account of various divisions of lateritic profile.
- 4. Outline the factors affecting mass movement and explain the rapid and slow mass movement processes in the tropics.
- 5. Explain the origin and evolution of 'Boulder Inselberg'.
- 6. Describe the formation of peneplains in the tropics and discuss the double surface of planation.
- 7. Write notes on **any two** :
 - i) Morphogenetic regions.
 - ii) Tropical coasts.
 - iii) Process of soil formation in the tropics.

B/I/10/360

M.A. / M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg. 211 : Synoptic Climatology (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions:1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Use of map stencils is allowed.
- 1. Explain different levels of climatological synthesis in the study of synoptic climatology.
- 2. Explain the procedure of weather data analysis in synoptic climatology.
- 3. Elaborate formation and characteristics of Easterly waves.
- 4. Explain in detail the development and occurrence of Tornados in weather system.
- 5. Define Frontogenesis and describe various principle zones of frontogenesis.
- 6. Describe mechanism of cloud formation and give a detailed account of cloud classification.
- 7. Write notes on **any two:**
 - i) Rossby waves.
 - ii) Importance of satellites in weather forecasting.
 - iii) Modeling of pollutant distribution.

M.A. / M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg – 212 : Agricultural Geography (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions :1) All questions carry equal marks. 2) Attempt any four questions.

- 3) Use of map stencils is allowed.
- 1. Define Agricultural Geography and explain its nature and scope.
- 2. Explain the significance of agriculture in different economies.
- 3. What is agricultural pattern ? Describe physical determinants influencing agricultural pattern.
- 4. Describe and distinguish between subsistence and commercial agriculture.
- 5. Describe various problems in present agricultural activity in Semi arid region.
- 6. What is agricultural regionalization ? Describe method of regionalization suggested by Thomas.
- 7. Write short notes on **any two** :
 - i) Land classification in Great Britain
 - ii) Agricultural Efficiency
 - iii) Plantation agriculture.

M.A./ M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY (2008 Pattern) Gg-213: Population Geography

Time : 3 Hours

Max. Marks: 80

[3726] - 205

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define population geography and explain its nature and scope.
- 2. Bring out the salient features of population growth during different period of human history.
- 3. What is fertility ? Explain various factors affecting on fertility levels.
- 4. Critically examine the optimum population theory.
- 5. Give a brief account of population composition.
- 6. Explain the recent mortality levels and trends in developing countries.
- 7. Write notes (any two) :
 - I) Types of migration
 - II) Use of population projection in educational planning
 - III) Population policies in India.

M.A. / M.Sc. Semester – II) Examination, 2010 GEOGRAPHY Gg. 214 : Geoinformatics – I (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions:1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define GIS and discuss potential of GIS in natural resource management.
- 2. What is database in GIS ? Distinguish between spatial and non spatial database that are used for geographic analysis.
- 3. What do you understand by data models in spatial analysis ? Explain with suitable examples.
- 4. Give an account of 'structuring of spatial data' in GIS.
- 5. What do you understand by grid operations in GIS ? Explain in detail local grid operations with suitable examples.
- 6. Write an account of map algebra as an integral component in data analysis.
- 7. Write notes on any two.
 - i) History of GIS
 - ii) Advantages of DBMS
 - iii) Vector data models.

B/I/10/375

M.A./M.Sc. (Semester – II) Examination, 2010 **GEOGRAPHY** (2008 Pattern) **Gg-221 : Monsoon Climatology**

Time: 3 Hours

Max. Marks: 80

Instructions : 1) Attempt **any four** questions.

- 2) All questions carry equal marks.
- 3) Use of map stencils is allowed.
- 1. Give an account of the development of Monsoon Climatology.
- 2. Describe in detail the thermal concept of Monsoon climatology.
- 3. Explain the characteristics of onset and withdrawal of summer monsoon.
- 4. Give an account of annual cycle of summer monsoon.
- 5. Explain in detail the decadal and centurial long period's trends in Indian Monsoon.
- 6. Describe various features of the predictors in forecasting.
- 7. Write notes on any two :
 - i) Surface and upper winds.
 - ii) Walkers Circulation
 - iii) ENSO Indicators.

[3726] – 208

M.A./M.Sc. (Semester – II) Examination, 2010 **GEOGRAPHY (2008 Pattern) Gg-222 : Industrial Geography**

Time : 3 Hours

Max. Marks: 80

Instructions: 1) All questions carry equal marks. 2) Attempt any four questions. 3) Use of map stencils is allowed.

- 1. Describe role of manufacturing in regional economy.
- 2. Describe the process of centralization and decentralization.
- 3. Give a brief account of the distribution and changing pattern of cotton textile industry in India.
- 4. Explain in detail problems and prospects of industrial regions in Anglo America.
- 5. Discuss the recent trends of software industry in India.
- 6. Describe salient features of industrial development in Japan.
- 7. Write notes on any two :
 - i) Scope of industrial geography.
 - ii) Green Hut's model.
 - iii) Iron and Steel industry in India.

B/I/10/460

[3726] – 209

M.A./M.Sc. (Semester – II) Examination, 2010 **GEOGRAPHY Gg** – 201 : Quantitative Techniques in Geography (Old) (2005 Pattern)

Time: 3 Hours

N.B. : 1) Attempt any four questions.

- 2) Use of calculator and statistical table are **allowed**.
- 3) The figures in the **right** hand side bracket indicate **full** marks.

1. a) Differentiate between :

- i) Spatial and temporal data
- ii) Nominal and ordinal scale
- b) Calculate mean and median for the following data. The table shows the number of students falling in different classes according to the marks obtained in the Geography paper. Comment on it. (14)

Class	27-29	30-32	33-35	36-38	39-41	42-44	45-47	48-50	51-53	54-56
Frequency	1	0	0	2	2	5	3	4	3	8
Class	57-59	60-62	63-65	66-68	69-71	72-74	75-77	78-80	81-83	
Frequency	1	4	1	3	0	1	0	1	1	

- 2. a) Write a note on Poisson Probability Distribution.
 - b) The average annual rainfall of the Multai Station in the Betul District of Madhya Pradesh is 985 mm with standard deviation of 307 mm. Assuming that the rainfall is normally distributed what is the probability of rainfall. (14)
 - i) Between 940 mm and 1000 mm
 - ii) More than 1700 mm
 - iii) Exactly 985 mm
 - iv) Less than 1100 mm.

(6)

(6)

[3726] – 21

Max. Marks: 80

[3726] – 21

- 3. a) Write a note on time series analysis.
 - b) Find out 3 and 5 year moving averages for the annual rainfall in cm at Rhondia (East India). Plot the data and comment on it. (14)

Year	1934	1935	1936	1937	1938	1939	1940	1941	1942
Rainfall	109	111	151	134	110	149	110	143	147
Year	1943	1944	1945	1946	1947	1948	1949	1950	
Rainfall	138	118	122	144	116	127	144	134	

- 4. a) Write a note on residuals and explained variance.
 - b) Annual rainfall (cm) and runoff (million m³/yr) for the Damodar River at Rhondia (East India) for 10 years (1941-1950) are given below. Find regression equation for the data. Calculate explained variance and residuals from regression equation and comment on it. (14)

Rainfall	143	147	138	118	122	144	116	127	144	134
Runoff	582	763	558	492	478	783	551	565	720	730

- 5. a) Write a note on null and alternate hypothesis.
 - b) The table below summarizes the results obtained in study conducted by a research organization with respect to the performance of three competing brands of toothpastes among the users. Apply the Chi square test to test the hypothesis at 0.05 level of significance to know that incidence of cavities is independent of the brand of the toothpaste used. (14)

	Brand A	Brand B	Brand C
No cavities	9	13	17
1-5 cavities	63	70	85
> 5 cavities	28	37	48

(6)

(6)

(6)

-2-

6. The following sets of scores were made by 16 individuals in a laboratory experiments on perception. Use Student's 't' test to find whether there is significant difference between means of the two distributions. Test the hypothesis at 0.05 level of significance and comment. (20)

Test 1	18	12	8	6	3	12	16	7	8	12	15	7	5	12	3	11
Test 2	16	14	8	8	8	10	8	14	2	8	14	4	6	6	0	7

- 7. Write short notes on **any two** :
 - a) Continuous and discrete data.
 - b) Unbiased random sample.
 - c) Descriptive and inferential statistics.

B/I/10/255

(20)

-3-

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg-223 : Geography of Rural Settlement (2008 Pattern)

Time: 3 Hours

Max. Marks: 80

N.B.: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Describe sequence of occupance from Neolithic to Modern period.
- 2. Elaborate various factors affecting the site and situation of rural settlements.
- 3. Explain the influence of labour cost and marketing of product on rural land use.
- 4. Explain functional analysis of rural service centers and trading centers with suitable examples.
- 5. Describe age-sex and occupational structure of rural settlements.
- 6. Describe various patterns of rural settlements in Maharashtra.
- 7. Write notes (**any two**) :
 - a) Land use planning in rural areas
 - b) Rural-urban migration
 - c) Morphogenesis of rural settlements.

B/I/10/360

M.A. / M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg. 224 : Geoinformatics – II (2008 Pattern)

Time : 3 Hours

Max. Marks : 80

Instructions:1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Distinguish between primary and secondary data. Describe its various sources.
- 2. Describe historical development of remote sensing in India.
- 3. Explain the interaction of EMR with respect to atmosphere.
- 4. Bring out the geometric differences between a map and a vertical aerial photograph. Explain the reasons for the distortions in an aerial photograph.
- 5. Differentiate between geostationary and sun synchronous satellites and state its significance.
- 6. Giving suitable examples explain major elements of interpretation of satellite images and an aerial photograph.
- 7. Write notes on **any two :**
 - i) Concept of black body radiation.
 - ii) ETM.
 - iii) GPS signals.

B/I/10/375

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg – 210 : Tropical Geomorphology (2005 Pattern) (Old)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define 'Tropical environment' and give an account of peculiarities of tropical climate.
- 2. Write an elaborative note on tropical weathering.
- 3. Define the term laterite and give an account of classification of laterite.
- 4. Outline the factors affecting mass movement and explain the processes associated with different types of mass movement.
- 5. Define boulder inselberg. Explain its origin and evolution in tropics.
- 6. Explain the morphology of plantation surfaces in the tropics.
- 7. Write notes on **any two** :
 - i) Classification of tropics
 - ii) Duricrust
 - iii) Quarternary change in climate.

B/I/10/100

[3726] – 22

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg-211 : Synoptic Climatology (2005 Pattern) (Old)

Time : 3 Hours

Max. Marks : 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Describe various levels of climatological synthesis in the study of synoptic climatology.
- 2. Explain the processes of meteorological code and data exchange in weather analysis.
- 3. Explain the development, occurrence and prediction of tropical tornadoes.
- 4. Define front and explain various fronts of the world.
- 5. Give an account of formation and classification of clouds.
- 6. Explain the importance of short, medium and long range weather forecasting.
- 7. Write notes on **any two** :
 - i) Life cycle of tropical cyclones
 - ii) Nature of synoptic climatology
 - iii) Synoptic approach.

B/I/10/100

M.A. / M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg 212 : Agricultural Geography (2005 Pattern) (Old)

Time : 3 Hours

Max. Marks: 80

[3726] - 24

Instructions.: 1) All questions carry equal marks. 2) Attempt any four questions. 3) Use of map stencils is allowed.

- 1. Describe the nature of Agricultural geography and explain its importance.
- 2. Describe the importance of agriculture in Indian economy.
- 3. Assess the importance of Technological development in Agricultural.
- 4. Describe the salient feature of Intensive farming.
- 5. Write an essay on agricultural problem in arid and semi arid regions.
- 6. What is crop combination ? Describe various methods of crop combination.
- 7. Write short note on **any two:**
 - i) Prospects of agricultural.
 - ii) Land use surveys.
 - iii) Bhatia's method of agri regionlization.

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg–214 : Geoinformatics – I (2005 Pattern) (Old)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define GIS and describe objectives and history of GIS.
- 2. Discuss the concept of space and time and write an explanatory note on potential of GIS.
- 3. Write an account of spatial and functional relationships with reference to spatial data in GIS.
- 4. Describe with examples, the relative advantages with disadvantages of raster and vector data models in GIS.
- 5. Discuss 'Topological building' as an integral part of spatial data structure.
- 6. Write a explanatory note on 'Operations from algebric theory'.
- 7. Write notes on **any two** :
 - i) Spatial Information
 - ii) DBMS
 - iii) Grid Operations.

B/I/10/100

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY (2005 Pattern) (Old) Gg-220 : Fluvial Geomorphology

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Elaborate 'drainage basin as a geomorphic unit'.
- 2. Explain mechanics of fluvial erosion with respect to Horton's overland flow.
- 3. 'Velocity distribution in a channel is governed by shape of the channel'. Discuss.
- 4. Discuss the modes of sediment transport. Distinguish between suspended load and bed load.
- 5. Give an account of fluvial depositional features.
- 6. Define river metamorphosis. Explain long term and short term adjustments of a river.
- 7. Write notes on **any two** :
 - i) Laws of allometric growth
 - ii) Uniform and non uniform flow
 - iii) Concept of grade.

B/I/10/240

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY (2005 Pattern) Gg-222 : Industrial Geography (Old)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) All questions carry equal marks. 2) Attempt any four questions. 3) Use of map stencils is allowed.

- 1. Describe nature and scope of Industrial Geography.
- 2. Critically examine Losch's model on industrial location.
- 3. Describe geographical factors influencing on industrial location.
- 4. Give an account of cotton textile industry in India.
- 5. Describe in detail industrial regions in Japan.
- 6. Describe problems and prospects of IT industry in India.
- 7. Write short notes on **any two** :
 - i) Degglomeration.
 - ii) Criticism on Weber's theory.
 - iii) Textile industry in Maharashtra.

B/I/10/245

[3726] – 29

M.A. / M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY (2005 Pattern) (Old) Gg – 223 : Geography of Rural Settlements

Time : 3 Hours

Max. Marks: 80

- N.B.:1) Attempt any four questions.
 - 2) All questions carry equal marks.
 - 3) Use of map stencils is allowed.
- 1. Describe how sequence of occupance from Neolithic to Modern period has influenced rural settlements.
- 2. Elaborate various factors affecting the site and situation of settlements.
- 3. Critically examine Van Thünen's Model.
- 4. Examine the functional analysis of rural service centers.
- 5. What is morphogenesis ? Describe the morphogenesis of rural settlements.
- 6. Describe the physical and economic factors affecting on rural house types.
- 7. Write notes (any two):
 - i) Intensity of landuse.
 - ii) Centrality and hierarchy.
 - iii) Population and amenities planning in rural areas.

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg. 301 : Theoretical and Applied Geography (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of map stencils is allowed.

- 1. Give an account of the contribution of Marcopolo and Vasco-Da-Gama in the historical development of geographical thought.
- 2. Discuss the dualism and dichotomies in systematic versus regional geography.
- 3. Define a model and discuss the types of models used in geographical studies.
- 4. Discuss the role of field survey and experimental studies in geography.
- 5. Give an account of the recent trends in geogrphy.
- 6. Discuss the application of geographical concepts and techniques in landuse planning.
- 7. Write notes on **any two** :
 - a) Contribution of Herodotus.
 - b) Arab school of thought.
 - c) Scientific method.

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-310 : Coastal Geomorphology (2008 Pattern) (Special Paper – I)

Time: 3 Hours

Max. Marks : 80

Instructions : 1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Draw neat figures/ maps wherever necessary.
- 4) Use of map stencils is allowed.
- 1. Explain the coastal system with respect to spatial and temporal scales.
- 2. Discuss the 'Equilibrium theory of tides'.
- 3. Describe fossil beach ridges, beach rock and abondoned sea cliffs as indicators of former sea level change.
- 4. Give an account of sources and pathways of sediment transport.
- 5. Explain in detail the morphology and hydrodynamics of estuaries and mudflats.
- 6. Give an account of 'Storm hazard management'.
- 7. Write notes on **any two** :
 - a) Wave refraction
 - b) Future sea level
 - c) Morphodynamics of coastal deltas.

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY (Special Paper – I) Gg-312 : Trade and Transport Geography (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of map stencils is allowed.

- 1. Give an account of the contribution made by different scholars in the development of trade and transport geography.
- 2. Describe the factors associated with the development of water ways with suitable examples.
- 3. Explain the factors associated with the growth of seaports and airports.
- 4. Explain the importance of Gravity model in trade and transport geography.
- 5. Elaborate the growth and problems in national highway development and planning in India.
- 6. Explain the importance of various treaties of trade at international level.
- 7. Write notes on **any two** :
 - a) Modern theory of trade
 - b) Types of trade
 - c) Hierarchies.

B/I/10/275

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-314 : Geoinformatics – III (Special Paper – I) (2008 Pattern)

Time: 3 Hours

Max. Marks: 80

Instructions: i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of map stencil and calculator is allowed.

- 1. Explain simple to complex grid operations in spatial analysis.
- 2. Distinguish between DEM and DTM and discuss its various applications in hydrology.
- 3. Discuss various analytical tasks in spatial analysis.
- 4. Discuss various sources of distortions in acquisition of satellite data.
- 5. What is image enhancement ? Describe various steps involved in DIP.
- 6. Give an account of Thermal Remote Sensing.
- 7. Write notes on **any two** :
 - a) ISODATA approach.
 - b) Mapping accuracy.
 - c) Concept of resolutions.

B/I/10/275

M.A./M.Sc. (Semester – III) Examination, 2010 **GEOGRAPHY** (Special Paper – II) **Gg-322 : Soil Geography** (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

- N.B.: 1) Attempt any four questions. 2) All questions carry equal marks. 3) Draw figures/maps wherever necessary. 4) Use of map stencils is allowed.
- 1. Define soil geography and explain its relationship with hydrology giving suitable examples.
- 2. Explain role of climate and biotic factors in the formation of soils.
- 3. Describe the biochemical properties of soils.
- 4. Explain the development of soil profile with reference to deposition of minerals and nutrients.
- 5. Bring out the correlation between various processes of weathering and soils.
- 6. Write an explanatory note on soil contamination and soil fertility decline.
- 7. Write notes on **any two** of the following :
 - a) Soils and forestry.
 - b) Soil texture.
 - c) Land suitability classification.

B/I/10/275

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M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg 301 : Theoretical and Applied Geography (2005 Pattern)

Time : 3 Hours

Max. Marks : 80

N.B.: i) Attempt any four questions.
ii) All questions carry equal marks.
iii) Draw figures/maps wherever necessary.
iv) Use of map stencil is allowed.

- 1. "Greek scholars were the pioneers in the development of geographical thought". Discuss.
- 2. Give a brief account of contribution of MarcoPolo, Columbus and Vasco-Da-Gama in the development of gesographical thoughts.
- 3. Explain the concept of dualism in physical versus human geography.
- 4. Discuss the changing paradigms in geography.
- 5. Explain the importance of field survey and experimental studies in geography.
- 6. Describe the need and significance of land use and urban planning.
- 7. Write short notes on **any two** :
 - a) Contribution of Strabo.
 - b) Application of Remote sensing in geography.
 - c) Elements of a system.

B/I/10/140

[3726] – 31

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-310 : Coastal Geomorphology (2005 Pattern)

Time : 3 Hours

N.B: 1) Attempt **any four** questions.

- 2) All questions carry equal marks.
- 3) Draw figures/maps wherever necessary.
- 4) Use of map stencils is allowed.
- 1. Discuss spatial and temporal scales in coastal geomorphology.
- 2. What is wave breaking ? Explain various types of wave breakers.
- 3. Give an account of causes and consequences of sea level change.
- 4. Describe major pathways of sediment transport and discuss major factors affecting transport of sediments.
- 5. Given an account of the morphology of coastal deltas.
- 6. Write an explanatory note on formation and morphology of sea cliffs and caves.
- 7. Write notes on **any two** :
 - a) Wave parameters
 - b) Flood and ebb currents
 - c) Transgression and regression.

B/I/10/100

[3726] - 32

Max. Marks : 80

M.A. / M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg - 311 : Applied Climatology (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

N.B.:1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Draw figures / maps wherever necessary.
- 4) Use of map stencils is allowed.
- 1. Explain in detail the categories of problems in Applied Climatology.
- 2. Explain various forms of precipitation and instruments to measure precipitation.
- 3. Bring out the relationship between climatic conditions and cropping patterns.
- 4. Explain with suitable examples the urban air pollution.
- 5. Describe heating degree days and cooling towers with suitable examples.
- 6. Give an account of development of remote sensing in agriculture.
- 7. Write notes on **any two:**
 - a) Human impact on global climate.
 - b) Climatic feedback mechanism.
 - c) Plate tectonics and reconstruction of past climate.

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-312 : Trade and Transport Geography (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of map stencils is allowed.

- 1. Explain the significance of transport in the world and regional economies.
- 2. Describe the factors associated with the development of roadways and railways with suitable examples.
- 3. Explain with suitable examples the economic and political factors associated with the growth of air ports.
- 4. Explain the importance of Hierarchies and measures in trade and transport geography.
- 5. Describe the role of trade in the world.
- 6. Discuss the various theories of international trade.
- 7. Write notes on **any two** :
 - a) National highways development and planning in India.
 - b) Treaties of trade.
 - c) Gravity model.

B/I/10/130

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-313 : Urban Geography (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

- **N.B.**: 1) Attempt any four questions.
 - 2) All questions carry equal marks.
 - 3) Draw figures/maps wherever necessary.
 - 4) Use of map stencils is allowed.
- 1. Define urban geography and give an account of its relation to other disciplines.
- 2. Describe the morphological model of urban structure proposed by Homer Hoyet and Mann.
- 3. Discuss the growth and density of urban population with suitable examples.
- 4. Explain various characteristics of rural-urban fringe and process of sub-urbanization.
- 5. Explain the concept of rank-size rule and hierarchy of urban settlements.
- 6. Explain various policies of urban development implemented in India.
- 7. Write notes on **any two** :
 - a) Criteria of urban settlements
 - b) Urban functions
 - c) Civic amenities and transport problems in urban areas.

B/I/10/100

[3726] – 35

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-321 : Political Geography (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define political geography and explain the relation between geography and politics.
- 2. Describe various approaches to the study of political geography.
- 3. Explain the concept of Nation and State and differentiate between them.
- 4. Describe the morphological classification of international boundaries.
- 5. Examine the global strategic views of Mackinder.
- 6. Discuss the contemporary political geography of SAARC region.
- 7. Write notes on **any two** :
 - a) Geopolitics.
 - b) National building.
 - c) Emergence of new States in India.

B/I/10/135

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-322 : Soil Geography (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

N.B. : 1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Draw figures / maps wherever necessary.
- 4) Use of map stencils is allowed.
- 1. Explain how the study of soils is related with various branches of geography.
- 2. Explain how climate and vegetation play an important role in the process of soil formation.
- 3. Describe chemical properties of the soils.
- 4. Explain the development of soil profile with reference to deposition of minerals and nutrients.
- 5. Classify the tropical soils and describe the saline soils in detail.
- 6. Write an explanatory note on soil contamination and soil fertility decline.
- 7. Write notes on **any two** of the following :
 - a) Soil permeability
 - b) Chemical weathering and ion exchange
 - c) Soil structure.

B/I/10/100

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2008 Pattern) Gg 401 : Resource Management

Time : 3 Hours

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks
3) Use of map stencils is allowed.

- 1. Elaborate the concept and approaches to resource management.
- 2. What are the bases of cultural classification of resources ? Trace how development of culture has had an impact on resource development ?
- 3. What is conservation ? Explain the methods of conservation of natural resources.
- 4. Examine the qualitative aspects of population resources in India.
- 5. Elaborate the concept of resource development and sustainable management.
- 6. 'There is a wide diversity in soil conservation and its achievement in India'. Discuss.
- 7. Write notes on **any two** :
 - i) Use of remote sensing in resource appraisal.
 - ii) Integrated resources.
 - iii) Water resources in India.

B/I/10/610

[3726] - 401

Max. Marks: 80

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-420 : Regional Planning and Development (2008 Pattern)

Time: 3 Hours

Max. Marks: 80

Instructions: 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. What is Region ? Write a note on process of regional planning.
- 2. Explain dynamic, prospective and problem criteria used in typology of regions.
- 3. Examine the importance of diagnostic survey in regional planning.
- 4. Describe in brief about various methods and techniques used in delineation of regions.
- 5. Give an account on regional disparities in India.
- 6. Evaluate the regional policies in the Indian Five Year Plans.
- 7. Write notes on **any two** :
 - i) Block level planning.
 - ii) Functional region.
 - iii) National capital region.

B/I/10/420

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg–423 : Geography and Ecosystem (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) All questions carry equal marks.
2) Attempt any four questions.
3) Use of map stencil is allowed.

- 1. Give an account of ecosystem concept and its components.
- 2. Describe abiotic components of the ecosystem in detail.
- 3. Mention major terrestrial ecosystems of the World and discuss grassland and desert ecosystem in detail.
- 4. Discuss man-environment relationship with respect to exploitation of resources.
- 5. Discuss the need of preservation and conservation of the ecosystem.
- 6. Elaborate the ecology of mountain ecosystem with reference to Arvali hills.
- 7. Write notes on **any two** :
 - i) Geography as a human ecology.
 - ii) Land resources and world food security.
 - iii) Nitrogen cycle.

B/I/10/345

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-424 : Research Methodology (2008 Pattern)

Time: 3 Hours

Max. Marks: 80

Instructions : 1) All questions carry equal marks.
2) Attempt any four questions.
3) Use of map stencil is allowed.

- 1. Define surveying. Describe plane and geodetic surveys and state their importance.
- 2. Describe the indexing system of SOI toposheets.
- 3. Outline the major steps to be observed in the interpretation of SOI toposheet.
- 4. Discuss what kind of data required for research in physical geography.
- 5. Discuss various steps to be taken in spatial data analysis. Give suitable examples.
- 6. Discuss the significance of field work as a major component in geographical research.
- 7. Write notes on **any two** :
 - i) Theodolite survey
 - ii) Sidelap and overlap
 - iii) Parametric tests.

B/I/10/310

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg. 430 : Social and Cultural Geography (2008 Pattern)

Time : 3 Hours

Max. Marks : 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define social and cultural geography and explain its nature and scope.
- 2. Explain various philosophical bases in social geography.
- 3. Explain social structure, models of assimilation and segregation of social groups with examples.
- 4. Explain the role of race, religion, caste and language in formation of cultural regions.
- 5. Explain methods of measuring well-being of society by weighing indicators.
- 6. Give an account of social areas in urban and rural settlements with suitable examples.
- 7. Write notes on **any two** :
 - i) Unity in diversity of India
 - ii) Development of Social and cultural geography
 - iii) Origin and diffusion of culture.

B/I/10/275

M.A./M.Sc. (Semester – IV) Examination, 2010 **GEOGRAPHY** (2008 Pattern) **Gg-433 : Natural and Man Made Hazards**

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt **any four** questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Define hazards. Explain the various types of natural hazards.
- 2. Give an account of causes and probability of occurrence of dust storms and cyclonic storms.
- 3. Discuss the causes and effects of earthquakes.
- 4. Discuss the causes and effects of landslides.
- 5. Explain the impact of oil spills on marine environment.
- 6. Describe the effects of over exploitation of resources on environment.
- 7. Write notes (any two) :
 - I) Effects of global warming
 - II) Impact of Tehazi dam on environment
 - III) Preventions for disaster.

B/I/10/415

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M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2008 Pattern) Gg-443: Regional Geography of North America

Time : 3 Hours

Max. Marks: 80

Intructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Explain major industries and their distribution in North America.
- 2. Describe the distribution of water and land resources of North America.
- 3. Give an account of major agricultural regions in North America.
- 4. Describe problems and prospects of industrialization in North America.
- 5. Describe international trade of North America giving suitable examples.
- 6. Discuss the growth and distribution of settlements in North America.
- 7. Write notes on **any two** :
 - i) Climate of North America
 - ii) Importance of tourism in North America
 - iii) Membership of military international organization.

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-444 : Geography of Japan (2008 Pattern)

Time : 3 Hours

Instructions : 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Describe major and minor islands of Japan.
- 2. Explain major drainage patterns of Japan.
- 3. Describe distribution of minerals in Japan and its importance in their economy.
- 4. Describe the problems and prospects of agriculture in Japan.
- 5. Explain major IT and electronic industries in Japan.
- 6. Discuss government policies of trade in Japan.
- 7. Write notes on **any two** :
 - i) Problems of urban area with reference to million cities in Japan.
 - ii) Density of Population in Japan.
 - iii) Tourism in Japan.

B/I/10/275

[3726] - 414

Max. Marks : 80

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2008 Pattern) Gg-445 : Geography of India

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Describe east flowing drainage system of India.
- 2. Describe major climatic regions of India.
- 3. Discuss the impact of deforestation and measures for the conservation of forests.
- 4. Give the distribution of major power projects in India.
- 5. Describe the impact of green revolution on socio-economic development in India.
- 6. Discuss the problems and prospects of industrial development in India.
- 7. Write notes (**any two**) :
 - I) Economic position of India.
 - II) Soil degradation.
 - III) Regional development of North-eastern region.

B/I/10/495

M.A. / M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg. 420 : Regional Planning and Development (2005 Pattern)

Time : 3 Hours

Max. Marks : 80

Instructions:1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Use of map stencils is **allowed**.
- 1. What is a concept of region ? Explain the concept of space, area and location attribute.
- 2. Discuss in detail single purpose and composite region with siutable examples.
- 3. Explain the bases of delineation of different types of regions with their utility.
- 4. Discuss 'development of tribal region as a special purpose region.
- 5. what are different methods of measuring levels of regional development and disparities ?
- 6. Examine the role of regional planning in India with some experiences and lessons.
- 7. Write notes on **any two** :
 - i) Typology of region.
 - ii) Planning process.
 - iii) Land use survey.

B/I/10/120

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2005 Pattern) Gg - 421 : Geography of Water Resources

Time: 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Use of map stencils is allowed.
- 1. Give an account of distribution of the world water resources.
- 2. Elaborate different stages and components of hydrological cycle.
- 3. Give the details of estimation of agricultural water uses.
- 4. Discuss the problems associated with availability and non availability of irrigation facilities.
- 5. Discuss the issues related to urban and rural water supply in Indian context.
- 6. Elaborate the precautions and preparedness measures taken to mitigate flood hazards.
- 7. Write notes on **any two** :
 - i) Water pollution.
 - ii) Droughts in Maharashtra.
 - iii) Major and minor irrigation systems.

B/I/10/120

M.A. / M.Sc. (Sem. – IV) Examination, 2010 GEOGRAPHY Gg. 422 : Biogeography (2005 Pattern)

Time : 3 Hours

Maximum Marks : 80

- **N.B.** : 1) Attempt any four questions.
 - 2) All questions carry equal marks.
 - 3) Use of map stencils is allowed.
- 1. Describe nature, scope and relevance of Biogeography.
- 2. Give an account of evolution and adaptation as biogeographic processes.
- 3. Write an essay on "environmental limitation of life".
- 4. Discuss island as an area of isolation.
- 5. Give an account of evolution of life on earth.
- 6. Describe the biomass of tropical Savanna and desert.
- 7. Write notes (**any two**) :
 - i) Floral kingdom.
 - ii) Ecosystem.
 - iii) Biomass of Tundra.

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-430 : Social and Cultural Geography (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define social and cultural geography and explain its nature and scope.
- 2. Explain the origin and diffusion of culture in the World.
- 3. Describe various types of space in the study of social and cultural geography.
- 4. Illustrate the concepts of industrialization, migration, urbanization and Sanskritization.
- 5. Explain the role of race, religion, caste and ethnicity in the formation of sociocultural regions.
- 6. Explain various methods of measuring social well beings.
- 7. Write notes on **any two** :
 - i) Types and structure of social groups.
 - ii) Cultural regions of the world.
 - iii) Role of globalization in social groups.

B/I/10/130

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg 431 : Computer Geography (2005 Pattern)

Time : 3 Hours

Max. Marks : 80

Instructions: 1) All questions carry equal marks.
2) Attempt any four questions.
3) Use of calculator and statistical table is allowed.

- 1. Discuss the application of computer techniques in Physical Geography.
- 2. Explain the advantages of windows operating system.
- 3. What are arithmetic operations used in BASIC? State their priorities with examples.
- 4. Write a programme in QBASIC to find the standard deviation and variance.
- 5. Prepare a worksheet depicting data for village wise distribution of area under 20 crops for 108 villages in the Baramati tahasil. Describe the steps in MS Excel to obtain percentage are a under these crops. How will you get the values of mean and standard deviation for each crop in tahasil ?
- 6. Give an account of various pie charts that are available in EXCEL to represent the data, taking hypothetical example.
- 7. Write notes on **any two** :
 - i) www
 - ii) Computer anatomy
 - iii) Three levels of keyboard operations.

B/I/10/130

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M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2005 Pattern) Gg 432 : Oceanography

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Define the term 'Oceanography' and discuss the development of modern oceanography.
- 2. Describe in detail about the world oceans and their formation.
- 3. Explain various physical properties of ocean water.
- 4. Define 'Ocean waves' and explain characteristics and properties of ocean waves.
- 5. Critically examine the dynamic theory of tides.
- 6. Give the details of different types of marine sediments and their origin.
- 7. Write notes on **any two** :
 - i) Atlantic ocean currents.
 - ii) Benthic life.
 - iii) Resources from oceans.

B/I/10/130

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2005 Pattern) Gg-444 : Geography of Japan

Time: 3 Hours

Max. Marks : 80

Instructions : 1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Use of map stencils is **allowed**.
- 1. Give an account of relief characteristics and vegetation regions of Japan.
- 2. What are major natural hazards in Japan ? Explain tsunami and flood as major natural hazards in Japan.
- 3. Explain the agricultural regions and major crops in Japan.
- 4. Explain various industrial regions and major industries in Japan.
- 5. Give an account of major imports and exports in Japan.
- 6. Explain the growth and distribution of population in Japan.
- 7. Write notes on **any two** :
 - i) Development of tourism in Japan.
 - ii) National economic policies in Japan
 - iii) Tectonic history of Japan.

[**3726**] – **50** C

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg -441 : Regional Geography of a Meso Region - Europe (2005 Pattern)

Time: 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Give an account of the distribution of major soil types and climatic regions of Europe.
- 2. What is resource appraisal ? Describe energy resources of Europe.
- 3. Give an account of development of industrial activities and evolution of industrial region of Europe.
- 4. Describe the balance of trade and globalization in Europe.
- 5. Give an account of growth and distribution of settlements of Europe.
- 6. Explain the importance and scope of tourism in Europe.
- 7. Write notes on **any two** :
 - i) Population as a resource.
 - ii) Migration in Europe.
 - iii) Distribution of major types of vegetation of Europe.

B/I/10/100

[3726] – 50 B

M.A. / M.Sc. (Sem – IV) Examination, 2010 GEOGRAPHY (2005 Pattern)

Gg. 443 : Regional Geography of a Meso Region – North America

Time: 3 Hours

Maximum Marks : 80

Instructions.: 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Describe physical setting of North America in terms of relief.
- 2. Describe water and land resources in North America.
- 3. Describe growth and distribution of population in North America.
- 4. Give an account of major agricultural regions in North America
- 5. Describe international trade of North America.
- 6. Explain the growth and distribution of settlements in North America.
- 7. Write notes on **any two:**
 - i) Tourism in North America.
 - ii) Relationship between U.S.A. and Canada.
 - iii) Migration in North America.

M.A./M.Sc. (Semester – I) Examination, 2010 GEOGRAPHY Gg-104 : Principles of Settlement and Population Geography (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Give an account of evolution of population geography.
- 2. Explain the influence of economic and social factors on growth and distribution of settlements.
- 3. What is nucleation ? Explain nearest neighbour method to measure degree of dispersion.
- 4. Define urbanization. Explain various factors related to urban growth.
- 5. Explain the effects of economic and social factors on population distribution.
- 6. Discuss the growth and health aspects of population.
- 7. Write notes on **any two** :
 - a) Systematic approach
 - b) Nodality and centrality
 - c) Demographic transition model.

B/I/10/435

[3726] – 30-A

M.A./M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY Gg-224 : Geoinformatics – II (2005 Pattern) (Old)

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Describe various data sources in spatial analysis.
- 2. Define remote sensing system and write a historical development of RS in India.
- 3. Explain the concept of blackbody radiation and give brief account of spectral signatures.
- 4. Bring out the distinguishing characteristics of some of the typical satellite borne scanner systems used during the last three decades.
- 5. Describe with the examples, how various surface features such as soil, rock type, vegetation, agriculture, water etc. and their properties can be recognized with the help of tonal and textural differences.
- 6. In terms of visual interpretation, describe with examples, the relative advantages and disadvantages of panchromatic and colour IR photographs.
- 7. Write notes on **any two** :
 - i) Optical aspects of aerial camera
 - ii) Reference scheme of Indian satellites
 - iii) SPOT.

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY (Special Paper – II) Gg-320 : Multivariate Statistics (2008 Pattern)

Time : 3 Hours

Instructions : i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of calculators, statistical tables, etc is allowed.

- 1. a) Explain with an example need of multivariate statistical techniques in geography. 15
 - b) Write a brief note on data reduction.
- 2. a) Find inverse of the following matrix and prove that $N^* N^{-1} = N^{-1*}N$ 12
 - $N = \begin{bmatrix} 12 & 10 & 03 \\ 17 & 54 & 28 \\ 11 & 92 & 75 \end{bmatrix}$

b) Explain the terms-element of a matrix and dimension of a matrix.

The following table represents correlations between different industries and services based on their annual growth from 1981-82 to 2000-01. Extract first two principal components from the correlation matrix and interpret the results.
 20

	X ₁	\mathbf{X}_{2}	X ₃	\mathbf{X}_{4}	X ₅
$\mathbf{R} = \mathbf{X}_{1}$	1.00	0.33	-0.05	-0.08	-0.29
\mathbf{X}_{2}	0.33	1.00	0.61	-0.21	-0.06
X ₃	-0.05	0.61	1.00	-0.14	0.30
\mathbf{X}_{4}	-0.08	-0.21	-0.14	-1.00	0.16
X ₅	-0.29	-0.06	0.30	0.16	1.00

- X_1 Agriculture, logging and mining industries
- X_2 Manufacturing, construction, electrical industries
- X_3 Transport and communication
- X_4 Banking, real estate, insurance
- X_5 Public admin, defence and other services.

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Max. Marks : 80

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Compute the multiple regression equations from the following matrix of correlations and interpret the results.
 20

Y	X ₁	X ₂		Y	X ₁	X ₂
.17	.16	.79	*	.85	.25	.70
.06	.36	.80		.19	.47	.74
.35	.43	.74		.03	.62	.42
.46	.15	.46		.37	.15	.31
.12	.87	.47		.17	.21	.12
.03	.76	.29	-	.41	.31	.43
.18	.20	.46	-	.27	.27	.15
.20	.13	.21		.05	.82	.46
.67	.37	.46				

Y = Criminal cases on Trial

 $X_1 =$ Poverty Ratio

 $X_2 =$ Unemployment Rate (per cent of labour force).

- 5. a) Describe the use of trend surface analysis in physical geography. 12
 - b) How is principal component analysis useful in remote sensing ?
- 6. Following table represents the size of pebbles (Z) at different locations (X and Y). Compute a suitable trend surface equation and explained variance and check its statistical significance. Interpret the results.20

X	10	10	30	30	30	50	50	50	60	70
Y	50	30	20	40	70	10	50	70	30	60
Z	21	20	18	15	17	14	12	10	08	04

7. Write notes on **any two** :

- i) Types of matrices
- ii) Curvilinear bivariate relationships
- iii) Factor analysis.

20

8

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY Gg-314 : Geoinformatics – III (2005 Pattern)

Time : 3 Hours

Instructions : i) Attempt any four questions. ii) All questions carry equal marks. iii) Use of map stencil and calculator is allowed.

- 1. Discuss the importance of multilayer operations in spatial analysis.
- 2. 'Topology building is an integral part of spatial analysis' Discuss.
- 3. Describe various types of errors in DIP and explain the process of image rectification.
- 4. Give an account of 'classification accuracy' in spatial analysis.
- 5. Give a comparative account of supervised and unsupervised classification in DIP.
- 6. Discuss various analytical tasks in spatial analysis.
- 7. Write notes on **any two** :
 - a) Surface analysis
 - b) Training stage and classification stage in DIP
 - c) Density slicing

B/I/10/100

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Max. Marks: 80

[3726] - 403

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2008 Pattern) Gg-421 : Geography of Water Resources

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Comment on 'The importance of water resources'.
- 2. Discuss advantages and disadvantages of different water supply systems with respect to agriculture.
- 3. Describe water utilisation in industrial sector giving suitable examples.
- 4. Explain which measures can be taken to solve the problems related to water scarcity.
- 5. Discuss the need of integrated basin planning in water conservation with suitable examples.
- 6. Describe different case studies of treaties of international and inter-state water disputes by giving suitable examples.
- 7. Write notes on **any two** :
 - a) Surface runoff
 - b) Methods of irrigation
 - c) Inter-state water disputes.

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M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-422 : Biogeography (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : 1) All questions carry equal marks. 2) Attempt any four questions. 3) Use of map stencil is allowed.

- 1. Discuss the role of biogeography in environmental studies.
- 2. Describe the major zoogeographical provinces in India.
- 3. Outline the pattern of biodiversity in India.
- 4. 'Climate as a major controlling factor of life' explain.
- 5. Discuss major hazards of island life.
- 6. Discuss how the idea of continental drift stands as supporting evidence for ancient patterns in distribution of plants and animals.
- 7. Write notes on **any two** :
 - i) Floral Kingdom
 - ii) Patterns of rarity
 - iii) The idea of continental drift.

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M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2008 Pattern) Gg 432 : Oceanography

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define Oceanography and explain modern trends in the study of Oceanography.
- 2. Explain how plate tectonics is responsible for the formation of ocean basins.
- 3. Describe different factors that affect the salinity of ocean water.
- 4. Discuss the characteristics and properties of Ocean waves.
- 5. Explain in detail, different types of tides.
- 6. Give an account of ocean currents in Indian Ocean and Atlantic Ocean.
- 7. Write notes on **any two** :
 - a) Continental margins
 - b) Ocean water temperature
 - c) Types of sediments on ocean floor.

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M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2005 Pattern) Gg-401 : Natural Resource Management

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Elaborate the concepts and approaches to the study of natural resource management.
- 2. Examine the prospects of water and forest resources in India.
- 3. What is conservation ? Explain the various approaches of conservation.
- 4. Explain the role of institutional arrangement and policy models in natural resource management.
- 5. Elaborate the concept of sustainable resource management.
- 6. Explain the role of GIS and remote sensing in resource appraisal.
- 7. Write notes on **any two** :
 - i) Natural hazards and risk management
 - ii) Mineral and forest resources of India
 - iii) Integrated resource development.

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY

Gg-441 : Regional Geography of Europe (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

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Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Explain locational significance and geostrategic importance of Europe.
- 2. Give an account of water and land resources of Europe.
- 3. Give an account of development of industrial activities and evolution of industrial regions of Europe.
- 4. Explain the trading partners and membership of international trade of EEC and G-8 of Europe.
- 5. Write an eassy on population composition of Europe.
- 6. Discuss in detail the development and scope of tourism in Europe.
- 7. Write notes on **any two** :
 - i) Major climatic types of Europe.
 - ii) Distribution of major soil types of Europe.
 - iii) Geostrategic importance of Europe.

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-442 : Regional Geography of South East Asia (2008 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks.

- 3) Use of map stencils is allowed.
- 1. Explain locational significance and geostrategic importance of South East Asia.
- 2. Define resource and explain water and land resources of South East Asia.
- 3. Discuss development of industrial activities and major industries of South East Asia.
- 4. Give an account of the development of transportation in South East Asia.
- 5. Explain the growth and distribution of settlements in South East Asia.
- 6. Give an account of plantation agriculture in South East Asia.
- 7. Write notes on **any two** :
 - i) Literacy and occupational structure of population of South East Asia
 - ii) International trade of South East Asia
 - iii) Distribution of major industries of South East Asia.

B/I/10/100

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-423 : Geography of Ecosystem (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

N.B. : 1) Attempt **any four** questions.

- 2) All questions carry equal marks.
- 3) Use of map stencils is allowed.
- 1. Write an essay on "geography as a human ecology".
- 2. Describe the abiotic components of ecosystem.
- 3. Explain the agriculture and forest ecosystem.
- 4. "Over utilization of resources is the main cause of ecological imbalance". Comment.
- 5. Discuss the preservation and conservation of the ecosystem through resource management.
- 6. Discuss Wild Life, Water and Forest Acts in India.
- 7. Write notes (any two) :
 - i) Nutrient cycling
 - ii) World Food Security
 - iii) Eco-Tourism.

B/I/10/130

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY (2005 Pattern) Gg-433 : Natural and Man Made Hazards

Time : 3 Hours

Max. Marks: 80

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Instructions : 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Discuss the probability of occurrence and effects of thunderstorms and hail.
- 2. Describe the effects and areas affected by flood in India.
- 3. Explain the causes and areas affected by landslides.
- 4. Give an account of causes and effects of desertification.
- 5. Describe the major nuclear hazards of the world.
- 6. Explain the ecological disturbances due to soil development and pollination.
- 7. Write notes (any two) :
 - i) Effects of droughts
 - ii) Ozone depletion
 - iii) Types of man-induced hazards.

M.A./M.Sc. (Semester – IV) Examination, 2010 GEOGRAPHY Gg-442 : Regional Geography of a Meso Region – South Asia (2005 Pattern)

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions. 2) All questions carry equal marks. 3) Use of map stencils is allowed.

- 1. Describe the distribution of major soil types of South Asia.
- 2. What is resource appraisal ? Describe energy resources of south Asia.
- 3. Give an account of distribution of major industries of South Asia.
- 4. Describe in detail the growth and distribution of population in South Asia.
- 5. Give an account of plantation agriculture of South Asia.
- 6. Explain the importance and scope of tourism in South Asia.
- 7. Write notes on **any two** :
 - i) Internal trade of South Asia
 - ii) Development of industrial activities in South Asia
 - iii) Population as a resource.

B/I/10/100

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M.A. /M.Sc. (Semester – II) Examination, 2010 GEOGRAPHY (2005 Pattern) (Old) Gg : 221 – Monsoon Climatology

Time : 3 Hours

Max. Marks: 80

Instructions : 1) Attempt any four questions.
2) All questions carry equal marks.
3) Use of map stencils is allowed.

- 1. Define monsoon climatology and describe its environmental importance.
- 2. Explain Aerological and Fohn's concepts of monsoon climatology.
- 3. Give an account of classical theory of India monsoon.
- 4. Differentiate between surface and upper winds of summer monsoon.
- 5. Give an account of Easterly Jet and Tibetan anticyclone.
- 6. Explain the role of ocean and upper atmosphere in teleconnection.
- 7. Write notes on **any two** :
 - i) Sea level pressure patterns.
 - ii) Eurasian snow cover
 - iii) ENSO Indicators.

B/I/10/100

M.A./M.Sc. (Semester – III) Examination, 2010 GEOGRAPHY (Special Paper – I) Gg-313: Urban Geography (2008 Pattern)

Time : 3 Hours

N.B. 1) Attempt any four questions.

- 2) All questions carry equal marks.
- 3) Draw figures / maps wherever necessary.
- 4) Use of map stencils is allowed.
- 1. Describe the nature, scope and significance of urban geography.
- 2. Explain the Park and Burgess morphological model of urban structure.
- 3. Describe the characteristics of rural-urban fringe.
- 4. Critically examine Christaller's central place theory.
- 5. Give an account of scarcity of housing, growth of slums and problems of civic amenities in urban centers .
- 6. Explain the urban development and urban policy in India.
- 7. Write notes on **any two** :
 - a) Urbanization curve
 - b) Approaches to urban classification
 - c) Nature of Urban influence.

B/I/10/260

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Max. Marks: 80