

Total No. of Questions : 8]

SEAT No. :

P956

[Total No. of Pages : 2

[5435]-101
M.A/M.Sc. (Semester - I)
GEOGRAPHY
Gg - 101 : Principles of Geomorphology
(2013 Pattern) (Credit System)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Attempt any three questions from question No. 1 to 6.*
- 2) *Question No. 7 and 8 are compulsory.*
- 3) *Draw figures/maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*

- Q1)** a) Define 'Uniformitarianism'? [2]
b) Describe the history of Geomorphology. [4]
c) Explain the Geological time scale. [4]
- Q2)** a) What is Epiorogenic movements? [2]
b) What is Fault? Discuss the various landforms associated with faults. [4]
c) Explain the Wegner's continental Drift theory with supporting evidences. [4]
- Q3)** a) What is weathering? [2]
b) Describe the erosional landforms of river in detail. [4]
c) Give an account of Sea-Floor spreading. [4]
- Q4)** a) Define the term 'Flood plain'. [2]
b) Write a note on slides and falls. [4]
c) Discuss the mechanism of Erosional landforms by glaciers. [4]

P.T.O.

- Q5)** a) What is 'Barchan'? [2]
b) Write a note on drainage basin and drainage pattern. [4]
c) Describe the depositional landforms by work of wind. [4]
- Q6)** a) What do you mean by Mushroom Rock? [2]
b) Describe in detail the concept of peneplanation. [4]
c) Explain the Mechanics of depositional landforms by sea waves. [4]
- Q7)** a) Give an account of different elements of slope. [5]
b) Write a note on 'Slope Replacement model'. [5]
- Q8)** a) Give an account of mechanism of deposition by glaciers. [5]
b) Describe the interior of the earth in detail. [5]



Total No. of Questions : 8]

SEAT No. :

P957

[Total No. of Pages : 2

[5435]-102

M.A./M.Sc. (Semester - I)

GEOGRAPHY

Gg - 102 : Principles of Climatology

(2013 Pattern) (Credity System)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Attempt any three questions from question No. 1 to 6.*
- 2) *Question No. 7 and 8 are compulsory.*
- 3) *Draw figures / maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*

- Q1)** a) Define climatology. [2]
b) Explain in nature of study of climatology. [4]
c) Discuss the chemical composition of the atmosphere. [4]
- Q2)** a) What is ionosphere? [2]
b) Discuss the properties of the troposphere in detail. [4]
c) Explain the effects of atmosphere on insolation. [4]
- Q3)** a) What is albedo? [2]
b) Explain the heat budget of the earth and its atmosphere. [4]
c) Explain the atmospheric windows. [4]
- Q4)** a) What is atmospheric pressure? [2]
b) Explain the factors affecting winds. [4]
c) Discuss the planetary wind system. [4]

P.T.O.

- Q5)** a) What are jet streams? [2]
b) Discuss the effects of jet streams on surface weather conditions. [4]
c) Explain the gradient winds. [4]
- Q6)** a) What is normal lapse rate? [2]
b) Explain the dry and wet adiabatic lapse rates. [4]
c) Discuss the absolute stability condition of the atmosphere. [4]
- Q7)** a) Discuss the effects of seasons and distance from the coast on horizontal distribution of temperature. [5]
b) Explain the various types of inversion of temperature close to the earth surface. [5]
- Q8)** a) Discuss the types and characteristics of fronts. [5]
b) Define weather forecasting and describe any one method of forecasting. [5]



Total No. of Questions : 8]

SEAT No. :

P958

[Total No. of Pages : 2

[5435]-103

M.A./M.Sc. (Semester - I)

GEOGRAPHY

Gg - 103 : Principles of Economic Geography

(2013 Pattern) (Credit System)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Attempt any three questions from question No. 1 to 6.*
- 2) *Question No. 7 and 8 are compulsory.*
- 3) *Draw figures / maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*

- Q1)** a) Define economic geography. [2]
b) Explain the scope of economic geography. [4]
c) Write a note on prospects of international trade. [4]
- Q2)** a) What do you mean by economic landscape? [2]
b) Write a note on village economy. [4]
c) Explain the structure of international trade. [4]
- Q3)** a) Define globalization. [2]
b) Explain the factors affecting regional disparity. [4]
c) Describe the significance of privatization. [4]
- Q4)** a) Define Green Revolution. [2]
b) Explain recent trends in economic geography. [4]
c) Explain the importance of human resource in economic development. [4]

P.T.O.

- Q5)** a) What do you mean by agglomeration? [2]
b) Explain Ricardo's classical theory. [4]
c) Explain the variation in cost of transportation. [4]
- Q6)** a) State the principle of Von-Thunen's model. [2]
b) Explain the problems of international trade. [4]
c) Critically evaluate Rostow's model. [4]
- Q7)** a) Describe the significance of land, labor and capital in different economic activities. [5]
b) Explain the impact of globalization on regional development. [5]
- Q8)** a) Describe with examples the impact of Green Revolution on economic development. [5]
b) Explain the nature of study of economic geography. [5]



Total No. of Questions : 8]

SEAT No. :

P959

[Total No. of Pages : 2

[5435]-104

M.A./M.Sc. (Semester - I)

GEOGRAPHY

**Gg - 104 : Principles of Population and Settlement Geography
(2013 Pattern) (Credit System)**

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *Attempt any three questions from question No. 1 to 6.*
- 2) *Question No. 7 and 8 are compulsory.*
- 3) *Draw Figures / Maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*

- Q1)** a) Explain any one approach to the study of population Geography. [2]
b) Describe the changing approaches to the study of settlement Geography. [4]
c) Explain the socio-economic factors influencing the distribution of settlements. [4]
- Q2)** a) Define 'Population Geography'. [2]
b) Explain any two effects of technology on shelter. [4]
c) Describe the various patterns of the settlements. [4]
- Q3)** a) What is dispersion of settlements? [2]
b) Describe the physical factors influencing the distribution of settlements. [4]
c) Explain the method of measuring degree of dispersion. [4]
- Q4)** a) What is Threshold population? [2]
b) Explain the concept of 'Range'. [4]
c) Describe Losch's model in brief. [4]

P.T.O.

- Q5)** a) Write the principles of Christaller's theory. [2]
b) Explain the Nearest-Neighbour method. [4]
c) Describe the factors affecting urban growth. [4]
- Q6)** a) What is nucleation? [2]
b) Explain the political factors affecting the distribution of population. [4]
c) Critically examine Ricardo's theory. [4]
- Q7)** a) Explain the Demographic Transition Model. [5]
b) Describe the economic factors affecting the distribution of settlements. [5]
- Q8)** a) Explain the Malthusian theory of population growth. [5]
b) Describe Christaller's central place theory. [5]



Total No. of Questions : 6]

SEAT No. :

P960

[Total No. of Pages : 2

[5435]-201

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 201 : Quantitative Techniques in Geography

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from question No. 1 to 4.*
- 2) *Question No. 5 and 6 are compulsory.*
- 3) *Draw figures / maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencil and calculator is allowed.*

Q1) a) What is Ordinal scale of measurement? [2]

b) Calculate skewness of the following data of children care of local authority as a percentage of all children under 18. [4]

9.1	7.0	2.0	9.8	7.2	7.7	8.0
6.8	6.9	3.8	7.7	5.9	3.8	5.4

c) Calculate Kurtosis for the data provided in Question 1 b). [4]

Q2) a) Types of geographical data. [2]

b) The average (mean) annual rainfall of Nashik District is 107 cm and standard deviation is 22 cm. Assuming that the distribution is normal, what is the probability that, the year 2015 will receive. [4]

- i) Less than 80 cm of rainfall,
- ii) More than 125 cm of rainfall.

c) From the information provided in Q 2b. what is the probability that the year 2015 will receive [4]

- i) Exactly 100 cm of rainfall.
- ii) Between 100 and 114 cm of rainfall.

P.T.O.

- Q3)** a) What is median as a measure of central tendency? [2]
 b) Calculate the correlation coefficient (r) for the data given in the following table where X is depth of water in m and Y is pressure of water in Kpa. [4]

X	1	2	3	4	5	6	7	8	9	10
Y	9.8	19.6	29	39	49	59	69	78	88	98

- c) Explain the concept of residuals and explained variance. [4]

- Q4)** a) What is probability? [2]
 b) The following table shows the data of discharge in m³/s (X) and corresponding width in m (Y) for annual maximum floods of different rivers in India. Calculate the power regression equation. [4]

X	81	30	164	20	607	743	6	13	21	37
Y	43	46	82	28	140	156	27	38	61	85

- c) Plot the scatter diagram and draw the regression line for the data set of the Q 4 b. [4]

- Q5)** a) Define Null and alternate hypothesis? [4]
 b) Calculate the value of F for the differences in the soil water holding capacity between three forest areas. Is the difference significant at the 0.05 level? [5]

Area A	Area B	Area C
72	36	54
58	36	57
42	30	93
85	48	64
81	43	
64	15	
71		
68		

- Q6)** a) What is level of significance? [4]
 b) Apply the Student's 't' test for the following data for depth of water in wells (in m) for two different areas. [5]

X ₁	2.4	4.4	6.1	4.9	2.6	3.9	2.7
X ₂	2.1	1.5	1.7	2.3	1.7	1.9	1.0



Total No. of Questions : 6]

SEAT No. :

P961

[Total No. of Pages : 1

[5435]-202

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 210 : Coastal Geomorphology

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from question No. 1 to 4.*
- 2) *Question No. 5 and 6 are compulsory.*
- 3) *Draw figures / maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencils and calculator is allowed.*

- Q1)** a) What are different components of coastal system? [2]
b) Define wave and explain wave height and wave amplitude. [4]
c) What are gravity waves and storm waves? [4]
- Q2)** a) Define surging and collapsing breakers. [2]
b) What is tide? Give the types of tides. [4]
c) Write a note on shore normal currents and beach drift. [4]
- Q3)** a) What is Neap tide? [2]
b) Write a note on relative and eustatic sea level change. [4]
c) Explain in short raised features and shore platforms as indicators of former sea level change. [4]
- Q4)** a) What are grain size characteristics of coastal sediments? [2]
b) Explain in short delta front and pro delta. [4]
c) Write a note on barrier islands. [4]
- Q5)** a) Discuss the characteristics of tide dominated coast. [4]
b) Discuss the problem of coastal erosion. [5]
- Q6)** a) Write a note on erosional landforms produced by sea waves. [4]
b) Write a short note on "estuarine reclamation". [5]



Total No. of Questions : 6]

SEAT No. :

P962

[Total No. of Pages : 1

[5435]-203

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 211 : Synoptic Climatology

(2013 Pattern) (Credit System)

Time : 2.30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from question No. 1 to 4.
- 2) Question No. 5 and 6 are compulsory.
- 3) Figures to the right indicate full marks.
- 4) Use of map stencil is allowed.

- Q1)** a) Describe the scope of synoptic climatology. [2]
b) Explain the displaying system of weather data by India Meteorological Services. [4]
c) Explain the formation of tropical cyclone. [4]
- Q2)** a) What do you mean by occluded front? [2]
b) Describe the process of origin of thunderstorm. [4]
c) Explain the process of analysis of weather charts. [4]
- Q3)** a) What do you mean by hurricanes? [2]
b) Write a note on prediction of tornados. [4]
c) Explain air masses of Asia. [4]
- Q4)** a) What do you mean by frontolysis? [2]
b) Write a note on idealized weather of a wave cyclone. [4]
c) Write a note on cold waves. [4]
- Q5)** a) Explain the formation process of clouds. [4]
b) Explain orographic precipitation. [5]
- Q6)** a) Write a note on medium range forecasting. [4]
b) Give benefits of weather forecasting in agriculture and agro-climatological services. [5]



Total No. of Questions : 6]

SEAT No. :

P963

[Total No. of Pages : 1

[5435]-204

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 212 : Agricultural Geography

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from question No. 1 to question No. 4.
- 2) Question No. 5 and 6 are compulsory.
- 3) Draw figures / maps wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Use of the map stencils and calculator is allowed.

- Q1)** a) Define 'Agriculture geography'. [2]
b) Explain the significance of agricultural geography. [4]
c) Describe the role of transportation in agriculture. [4]
- Q2)** a) What do you mean by mixed farming? [2]
b) Explain the problems of drought prone regions of Maharashtra. [4]
c) Explain the scope of agricultural geography. [4]
- Q3)** a) What is systematic approach? [2]
b) Describe the influence of relief on agricultural pattern. [4]
c) Write a note on land holdings in Indian Society. [4]
- Q4)** a) What is DPAP. [2]
b) What are the principles of Thomas's crop-combination methods. [4]
c) Explain in brief any two agricultural regions of India. [4]
- Q5)** a) Explain the role of irrigation in semi-arid region. [4]
b) Write a note on 'Agricultural efficiency'. [5]
- Q6)** a) Explain the importance of landuse surveys. [4]
b) What are the basic requirement of agricultural regionalization. [5]



Total No. of Questions : 6]

SEAT No. :

P964

[Total No. of Pages : 1

[5435]-205

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 213 : Population Geography

(2013 Pattern) (Credit System)

Time : 2 : 30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q.1 to Q.4.*
- 2) *Question 5 and 6 are compulsory.*
- 3) *Draw figures/Maps wherever necessary.*
- 4) *Figures to the right side indicate full marks.*
- 5) *Use of map stencils and Calculator is allowed.*

- Q1)** a) Define mortality. [2]
b) Give an account of evolution of population geography. [4]
c) Critically examine Optimum Population Theory. [4]
- Q2)** a) Give the types of migration. [2]
b) Discuss the factors affecting population growth. [4]
c) Describe the demographic factors affecting distribution of world population. [4]
- Q3)** a) Mention the areas of high fertility levels in the world. [2]
b) Discuss the consequences of migration. [4]
c) Discuss the occupational composition of population. [4]
- Q4)** a) What is population policy? [2]
b) Explain the levels and trends of fertility in developing countries. [4]
c) Explain the levels and trends of mortality in developed countries. [4]
- Q5)** a) Discuss the age and sex composition of population. [4]
b) Describe the use of population projections in planning. [5]
- Q6)** a) Describe the socio-economic factors affecting distribution of world population. [4]
b) Critically examine the applicability of the Demographic Transition Theory. [5]



Total No. of Questions : 6]

SEAT No. :

P965

[Total No. of Pages : 1

[5435]-206

M.A./M.Sc.

GEOGRAPHY

Gg - 220 : Fluvial Geomorphology

(2013 Pattern) (Credit System)

Time : 2.30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to 4.*
- 2) *Question No. 5 and 6 are compulsory.*
- 3) *Draw figures/maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencils and calculator is allowed.*

- Q1)** a) Define fluvial Geomorphology. [2]
b) What is below grade condition of a river? [4]
c) What do you understand by 'belt of no erosion'? [4]
- Q2)** a) What do you understand by fluvial erosion? [2]
b) What is a concept of grade? [4]
c) Describe erosional features of fluvial erosion. [4]
- Q3)** a) What is quaternary fluvial system? [2]
b) State the characteristics of gravel bed channel. [4]
c) Discuss types of fluvial erosion . [4]
- Q4)** a) Mention various land forms of fluvial deposition. [2]
b) What do understand by headward erosion. [4]
c) Give a brief account of bedrock channels. [4]
- Q5)** a) What is tractive force? [4]
b) Describe open channel hydraulics with reference to types of flows. [5]
- Q6)** a) Give an account of shear stress and stream power. [4]
b) Give a brief account of River metamorphosis. [5]



Total No. of Questions : 6]

SEAT No. :

P966

[Total No. of Pages : 2

[5435]-207

M.A./M.Sc.

GEOGRAPHY

**Gg - 221 : Monsoon Climatology
(2013 Pattern) (Credit System)**

Time : 2.30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from questions No. Q.1 to Q.4.*
- 2) *Questions 5 and 6 are compulsory.*
- 3) *Draw figures/Maps wherever necessary.*
- 4) *Figures to the right side indicate full marks.*
- 5) *Use of map stencils and Calculator is allowed.*

Q1) a) What is monsoon trough? [2]

b) Describe surface and upper winds during monsoon. [4]

c) Explain thermal concept of origin of monsoon. [4]

Q2) a) What does the term "Monsoon" mean? [2]

b) Discuss onset of monsoon over India. [4]

c) Describe off-shore trough and its impact on rainfall distribution during monsoon. [4]

Q3) a) What is El Nino? [2]

b) Give an account of the effect of El Nino and Southern Oscillation on Indian rainfall. [4]

c) Write a note on multiple power regression model used for monsoon forecasting. [4]

Q4) a) What is the main cause of break monsoon situation? [2]

b) Describe the monsoon of East Asia. [4]

c) "Indian economy is driven by monsoon". Explain. [4]

P.T.O.

Q5) a) Describe mid-tropospheric cyclones and their role in rainfall distribution during monsoon. [4]

b) Explain how rotation of earth around its axis affects monsoon circulation. [5]

Q6) a) Account for Eurasian snow cover and its relationship with monsoon.[4]

b) "Moist processes add strength to the monsoon circulation". Elaborate.[5]



Total No. of Questions : 6]

SEAT No. :

P967

[Total No. of Pages : 1

[5435]-208

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 222 : Industrial Geography

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q.1 to Q.4.*
- 2) *Question 5 and 6 are compulsory.*
- 3) *Draw figures/Maps wherever necessary.*
- 4) *Figures to the right side indicate full marks.*
- 5) *Use of map stencils and Calculator is allowed.*

- Q1)** a) What is manufacturing? [2]
b) Discuss the changing nature of industrial geography. [4]
c) Explain the economic factors affecting industrial location. [4]
- Q2)** a) Enlist the political factors affecting industrial location. [2]
b) Discuss the application of Weber's model of industrial location. [4]
c) Explain Isard's model. [4]
- Q3)** a) What are the various processing units in cotton textiles. [2]
b) Explain the distribution of iron and steel industry in India. [4]
c) Discuss the changing pattern and distribution of automobile industry. [4]
- Q4)** a) Enlist the industrial regions of India. [2]
b) Discuss the regional development of industries in India. [4]
c) Explain the locational factors of industries in India. [4]
- Q5)** a) Compare and contrast centralization and decentralization of industries. [4]
b) Describe the industrial regions of Japan. [5]
- Q6)** a) Discuss the problems of industrial regions of North America. [4]
b) Discuss the development of IT industry in India. [5]



Total No. of Questions : 6]

SEAT No. :

P968

[Total No. of Pages : 1

[5435]-209

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 223 : Geography of Rural Settlements

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q.1 to Q.4.
- 2) Question 5 and 6 are compulsory.
- 3) Draw figures/Maps wherever necessary.
- 4) Figures to the right side indicate full marks.
- 5) Use of map stencils and Calculator is allowed.

- Q1)** a) What do you mean by evolution of settlements? [2]
b) Give an account of evolution of settlements in modern period. [4]
c) Explain the factors affecting the distribution of settlements. [4]
- Q2)** a) What is dispersion of settlements? [2]
b) Describe the factors affecting growth of settlements. [4]
c) Explain the land tenancy system. [4]
- Q3)** a) What are rural service centers? [2]
b) What are the assumptions of Christaller's Central Place Theory? [4]
c) Explain the hierarchy of settlements according to Christaller's theory. [4]
- Q4)** a) What do you mean by transformation of rural settlements ? [2]
b) Discuss the seasonal migration in rural areas. [4]
c) Describe the building material used in rural areas. [4]
- Q5)** a) Describe the assumptions of land use model of Von Thunen. [4]
b) Explain the evolution of land use pattern according to Von Thunen. [5]
- Q6)** a) Describe the rural house types in Maharashtra. [4]
b) Discuss the planning of amenities in rural areas. [5]



Total No. of Questions : 6]

SEAT No. :

P969

[Total No. of Pages : 1

[5435]-210

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 204 : Geography of Tourism

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q1 to Q4.*
- 2) *Question 5 and 6 are compulsory.*
- 3) *Draw figures/maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencils and Calculator is allowed.*

- Q1)** a) Define tourist. [2]
b) Explain the influence of socio-cultural aspects on tourism. [4]
c) What are the types of tourism? [4]
- Q2)** a) What do you mean by leisure? [2]
b) Explain the basic elements of tourism. [4]
c) Discuss the difference between National and International. [4]
- Q3)** a) Define adventure tourism. [2]
b) Explain the role of travel agencies in tourism. [4]
c) "Goa is the prime destination in tourism in India". Discuss. [4]
- Q4)** a) Enlist the types of accommodation. [2]
b) Explain the environmental laws in tourism. [4]
c) "Kokan Coastal region is the best attraction of tourists". Discuss. [4]
- Q5)** a) Discuss the current trends in tourism. [4]
b) Explain the role of foreign capital in tourism. [5]
- Q6)** a) Explain the evolution of tourism. [4]
b) Describe the relationship between globalization and tourism. [5]



Total No. of Questions : 6]

SEAT No. :

P970

[Total No. of Pages : 1

[5435]-211

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 205 : Geography of Disaster Management

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q.1 to Q.4.
- 2) Question 5 and 6 are compulsory.
- 3) Draw figures/Maps wherever necessary.
- 4) Figures to the right side indicate full marks.
- 5) Use of map stencils and Calculator is allowed.

- Q1)** a) What is vulnerability? [2]
b) Explain the concepts of resilience and risks. [4]
c) Explain the causes and types of landslides. [4]
- Q2)** a) What do you mean by stampedes? [2]
b) Explain the causes of droughts. [4]
c) Explain the causes and types of fires. [4]
- Q3)** a) What is migration? [2]
b) Discuss the role of civilians and NGOs in natural and man-made calamities. [4]
c) Discuss the role of military forces in natural and man-made calamities. [4]
- Q4)** a) What are the various modern technologies used in disaster management? [2]
b) Explain the use of GIS and GPS in disaster management. [4]
c) Discuss the application of modern technologies for emergency communication. [4]
- Q5)** a) Explain the social and economic impacts of disasters. [4]
b) Explain the differential impacts of disasters with reference to caste and class. [5]
- Q6)** a) Discuss the global trends of pandemics. [4]
b) Discuss the disasters and their management in India. [5]



Total No. of Questions : 6]

SEAT No. :

P971

[Total No. of Pages : 1

[5435]-212

M.A./M.Sc. (Semester - II)

GEOGRAPHY

Gg - 206 : Geography of Energy Resources

(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q.1 to Q.4.
- 2) Questions 5 and 6 are compulsory.
- 3) Draw figures/maps wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Use of map stencils and calculator is allowed.

- Q1)** a) Define energy resources . [2]
b) Discuss the importance of planning for pattern of energy use. [4]
c) With suitable examples explain the issues related to trade of oil. [4]
- Q2)** a) What are secondary resources? [2]
b) Elaborate historical background of energy use and development. [4]
c) Explain the issues related to energy crisis. [4]
- Q3)** a) Name the reserves of natural oil in India. [2]
b) Describe the pattern of energy consumption in industrial sector in India. [4]
c) Write the mitigation of energy crisis in India. [4]
- Q4)** a) Mention the status of coal reserves in the world. [2]
b) Discuss the world oil energy crisis in brief. [4]
c) Discuss the traditional methods of energy conservation. [4]
- Q5)** a) Giving suitable examples differentiate between renewable and non-renewable resources. [4]
b) Describe the sustainable development of energy resources. [5]
- Q6)** a) Explain the various energy related agreements of India with other countries. [4]
b) Discuss the relation between energy crisis and geopolitics of energy. [5]



Total No. of Questions : 6]

SEAT No. :

P972

[Total No. of Pages : 1

[5435]-213

M.A./M.Sc.

GEOGRAPHY

Gg - 208 : Geoinformatics - I
(2013 Pattern) (Credit System)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to 4.
- 2) Question 5 and 6 are compulsory.
- 3) Draw figures/maps wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Use of map stencils and Calculator is allowed.

- Q1)** a) Mention objectives of GIS. [2]
b) Elaborate the concept of space and time. [4]
c) Discuss potential of GIS. [4]
- Q2)** a) What do you understand by spatial data? [2]
b) What do you understand by functional relationship? [4]
c) What is Ordinal scale? Give examples. [4]
- Q3)** a) What is DBMS? [2]
b) What is tessellation? [4]
c) State the significance of Geometric primitives in spatial data models. [4]
- Q4)** a) What is ratio and cyclic scale? [2]
b) Give a brief account of topology building in GIS. [4]
c) How do you distinguish between manual and semi-automatic digitization? [4]
- Q5)** a) Give a brief account of operations from set theory as a data analysis in GIS. [4]
b) Explain local grid operations in GIS giving suitable examples. [5]
- Q6)** a) Give a brief account of GIS applications. [4]
b) Give an account of History of GIS [5]



Total No. of Questions : 6]

SEAT No. :

P973

[Total No. of Pages : 1

[5435]-214

M.A./M.Sc.

GEOGRAPHY

Gg - 209 : Geoinformatics - II

(2013 Pattern) (Credity System)

Time : 2.30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.4.
- 2) Question No. 5 and 6 are compulsory.
- 3) Draw figures/Maps wherever necessary.
- 4) Figures to the right side indicate full marks.
- 5) Use of map stencils and Calculator is allowed.

- Q1) a) Define Remote Sensing? [2]
b) Give a brief account of historical perspective of Remote Sensing in India.[4]
c) What are primary data sources in Geoinformatics? [4]
- Q2) a) State the laws of radiation. [2]
b) Discuss various types of scattering. [4]
c) What are the effects of atmosphere in remote sensing data acquisition?[4]
- Q3) a) What is black body radiation? [2]
b) Give a brief account of black body radiation. [4]
c) Distinguish between geosynchronous and sun synchronous satellites.[4]
- Q4) a) What is. resolution? [2]
b) Discuss the geometric characteristics of an aerial photograph. [4]
c) Describe various types of sensors. [4]
- Q5) a) Explain the uses of OCM data. [4]
b) Give an account of types of data products. [5]
- Q6) a) Give a brief account of photographic products as a data product in Geoinformatics. [4]
b) Explain the factors governing the interpretability of satellite images and aerial photographs. [5]



Total No. of Questions : 6]

SEAT No. :

P974

[Total No. of Pages : 1

[5435]-301

M.A./M.Sc. (Semester - III)

GEOGRAPHY

Gg - 301 : Geography of India with Special Reference to Maharashtra
(2013 Pattern) (Credit System)

Time : 2.30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to 4.
- 2) Question No. 5 and 6 are compulsory.
- 3) Figures to the right indicate full marks.
- 4) Use of map stencils and calculator is allowed.
- 5) Draw figures/maps wherever necessary.

- Q1)** a) Name the neighbouring states of Maharashtra? [2]
b) Discuss the minerals resources of Maharashtra. [4]
c) Explain the origin and evolution of the Himalayas. [4]
- Q2)** a) Write the climatic regions in India. [2]
b) Discuss the socio-economic importance of green revolution of India. [4]
c) Describe the population composition of Maharashtra. [4]
- Q3)** a) Write the soil types of India. [2]
b) Discuss the sugar industry in Maharashtra. [4]
c) Describe the rice production in India. [4]
- Q4)** a) What is a mineral resources? [2]
b) Describe the drainage system of the Ganga. [4]
c) Describe the alluvial and regur soils in India. [4]
- Q5)** a) Give an account of physiography of Maharashtra. [4]
b) Explain the rainfall distribution in India. [5]
- Q6)** a) Discuss the measures to conserve the forest. [4]
b) Write a note on under developed regions in India. [5]



Total No. of Questions : 6]

SEAT No. :

P975

[Total No. of Pages : 1

[5435]-302

M.A./M.Sc.

GEOGRAPHY

Gg - 310 : Tropical Geomorphology

(2013 Pattern) (Credit System) (Semester - III)

Time : 2½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q.1 to Q.4.*
- 2) *Question 5 and 6 are compulsory.*
- 3) *Draw figures/Maps wherever necessary.*
- 4) *Figures to the right side indicate full marks.*
- 5) *Use of map stencils is allowed.*

- Q1)** a) What is the process of slope wash in the tropics? [2]
b) Elaborate theories of origin of iron in laterites. [4]
c) Discuss the process of chemical denudation in the tropics. [4]
- Q2)** a) Define planation surface. [2]
b) Describe the climatic factors influencing tropical weathering. [4]
c) Explain solubility and mobility of minerals in the tropics. [4]
- Q3)** a) Define peneplain. [2]
b) Explain the characteristics of the tropical coasts. [4]
c) Explain the process of mechanical denudation in the tropics. [4]
- Q4)** a) What is clay mineral? [2]
b) Describe classification of tropics. [4]
c) Discuss morphogenetic regions in the tropics. [4]
- Q5)** a) Describe relief characteristics of the tropical terrain. [4]
b) Explain the concept of double surfaces of planation. [5]
- Q6)** a) Explain the hillslope and pediments in the tropics. [4]
b) Describe the role of climatic changes in the development of landforms. [5]



Total No. of Questions : 6]

SEAT No. :

P976

[Total No. of Pages : 1

[5435]-303

M.A./M.Sc. (Semester - III)

GEOGRAPHY

Gg - 311 : Applied Climatology

(2013 Pattern) (Credit System)

Time : 2.30 Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q.1 to Q.4.
- 2) Question No. 5 and 6 are compulsory.
- 3) Figures to the right indicate full marks.
- 4) Use of map stencil is allowed.
- 5) Draw figures/Maps wherever necessary.

- Q1)** a) Define applied climatology. [2]
b) Discuss 'atmospheric concern and awareness'. [4]
c) Give an account of climate and health. [4]
- Q2)** a) Name the instruments used to measure air temperature. [2]
b) Explain the relationship between climate and livestock. [4]
c) Discuss the impact of urban climate on Global Environmental Change. (GEC) [4]
- Q3)** a) Define bio-meteorology. [2]
b) Describe the basic relationship between evaporation and evapotranspiration. [4]
c) Describe the applications of Remote sensing in agriculture. [4]
- Q4)** a) Define radiation. [2]
b) Differentiate between heating degree days and cooling degree days. [4]
c) Explain the techniques of reconstruction of past climates. [4]
- Q5)** a) Describe the impact of climate on water transport. [4]
b) Explain satellite programming for monitoring the crop condition. [5]
- Q6)** a) Give an account of canopy transpiration and crop stress. [4]
b) Describe the various theories of climate change. [5]



Total No. of Questions : 6]

SEAT No. :

P977

[Total No. of Pages : 2

[5435] - 304

M.A./M.Sc. (Semester - III)

GEOGRAPHY

**Gg - 312 : Trade and Transport Geography
(2013 Pattern) (Credit System)**

Time : 2 ½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to Q. No. 4.*
- 2) *Question No. 5 and 6 are compulsory.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of map stencils is allowed.*
- 5) *Draw the figures / map wherever necessary.*

- Q1)** a) Define 'Trade and Transport Geography'. [2]
b) Explain any two approaches to the study of Trade and Transport Geography. [4]
c) Explain the significance of transportation in the world. [4]
- Q2)** a) Write the modes of transport. [2]
b) Describe the characteristics of different modes of transport. [4]
c) Describe the different types of waterways. [4]
- Q3)** a) Define international trade. [2]
b) Explain the history of development of international trade in detail. [4]
c) Describe the theoretic measures in the measurement of accessibility. [4]
- Q4)** a) Mention the types of trade. [2]
b) Describe the problems of urban transport. [4]
c) Explain the railway transport as the backbone of regional economy. [4]

P.T.O.

- Q5)** a) Write a short note on Neo-classical theory of trade. [4]
b) Describe the world distribution of airways. [5]
- Q6)** a) Describe the alternative transportation in mega cities. [4]
b) What is pollution? Explain the vehicular pollution with example. [5]



Total No. of Questions : 6]

SEAT No. :

P978

[Total No. of Pages : 2

[5435] - 305
M.A./M.Sc. (Semester - III)
GEOGRAPHY
Gg - 313 : Urban Geography
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) Question No 5 and 6 are compulsory.*
- 3) Draw the figures / maps wherever necessary.*
- 4) Figures to the right indicate full marks.*
- 5) Use of map stencil is allowed.*

- Q1)** a) What do you mean by urban settlements? [2]
b) Discuss the demarcation of CBD. [4]
c) Describe the urban functions. [4]
- Q2)** a) What is urban structure? [2]
b) Explain the various criteria used for urban classification. [4]
c) Differentiate between the rural and urban settlements. [4]
- Q3)** a) What do you mean by a satellite town? [2]
b) Discuss the demarcation of rural - urban fringe. [4]
c) Describe the characteristics of city regions. [4]
- Q4)** a) What is a city region? [2]
b) Write a note on rank-size rule. [4]
c) Write a note on civic amenities in towns and cities. [4]

P.T.O.

- Q5)** a) Discuss the interdisciplinary nature of study of urban geography. [4]
b) Write a note on vertical versus horizontal growth of cities. [5]
- Q6)** a) Discuss the occupational structure of urban population. [4]
b) Explain the use of GIS in urban planning. [5]



Total No. of Questions : 6]

SEAT No. :

P979

[Total No. of Pages : 2

[5435] - 306
M.A./M.Sc. (Semester - III)
GEOGRAPHY
Gg - 320 : Multivariate Statistics
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) *Questions No. 5 and 6 are compulsory*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of statistical tables and calculators is allowed.*

- Q1)** a) Define Scalar Matrix and identity matrix. **[2]**
b) Prove the associative theorem for multiplication. **[4]**
c) Find the Inverse of A (A^{-1})

$$A = \begin{bmatrix} 65 & 675 & 876 \\ 87 & 987 & 905 \\ 543 & 654 & 957 \end{bmatrix} \quad \text{[4]}$$

- Q2)** a) List the objectives of multivariate statistics. **[2]**
b) Using the data given below find the A_0 , A_1 and A_2 determinants. **[4]**
- | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|
| X | 21 | 32 | 38 | 35 | 42 | 45 | 49 | 50 |
| Y | 12 | 11 | 8 | 4 | 9 | 13 | 16 | 20 |
- c) From the determinants found in Q. 2 (b), obtain the second degree bivariate regression equation. **[4]**

- Q3)** a) The following table records the observed values for X_1 , X_2 and Y variables. Find the means and variances for X_1 , X_2 and Y. **[2]**

Y	2	3	5	6	8
X_1	12	8	7	5	3
X_2	15	13	12	8	6

P.T.O.

- b) Using the data given in Q.3(a) find A_0 , A_1 and A_2 determinants. [4]
 c) Using the determinants obtained from Q.3(b), compute a multiple regression equation, explained variance and interpret the results. [4]

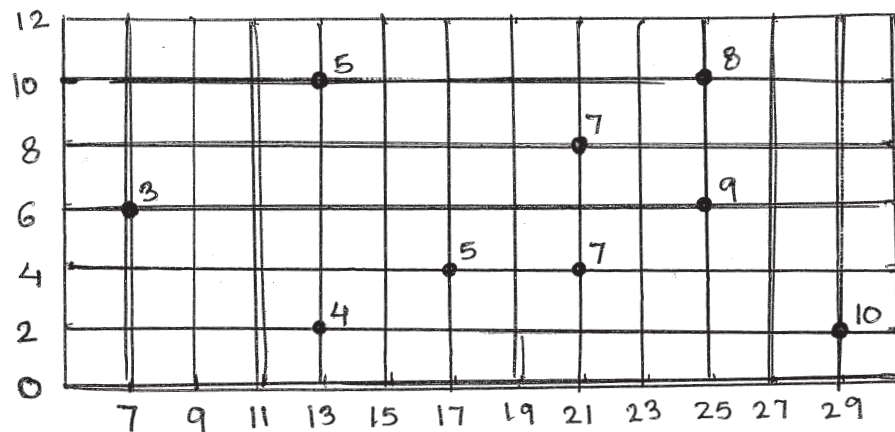
Q4) a) Define the term varimax rotation. [2]

b) Using the following matrix obtain the first factor loadings matrix. [4]

	X_1	X_2	X_3	X_4	X_5
X_1	1.0	0.39	-0.72	0.39	0.58
X_2		1.0	0.86	0.73	0.35
X_3			1.0	0.82	0.86
X_4				1.0	0.92
X_5					1.0

c) Compute eigen vector and variance explained by the factor loadings obtained from Q.4 (b) and interpret the results. [4]

Q5) a) Following graph depicts the water depths in meters at different locations. Prepare an appropriate table and obtain a trend surface equation for the same. [4]



b) Obtain the explained variance, level of significance (0.05 level) for the result obtained from Q.5(a) and interpret the result. [5]

Q6) a) Using the correlation matrix given in Q.4(b), compute the first principal component loadings. [4]

b) From the Principal loadings obtained in Q.6(a) find eigen value, explained variance and interpret the results. [5]



Total No. of Questions : 6]

SEAT No. :

P980

[Total No. of Pages : 2

[5435] - 307
M.A./M.Sc. (Semester - III)
GEOGRAPHY
Gg - 321 : Political Geography
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q. No.4.*
- 2) Question No. 5 and 6 are compulsory.*
- 3) Figures to the right indicate full marks.*
- 4) Use of map stencils is allowed.*
- 5) Draw figures / maps wherever necessary.*

- Q1)** a) Define 'State'. [2]
b) Explain the scope of Political Geography. [4]
c) Describe geopolitical significance of the Indian ocean. [4]
- Q2)** a) What is 'Rimland'? [2]
b) Write a note on Whittlesey's landscape approach to the study of Political Geography. [4]
c) Explain the significance of natural resources in nation building. [4]
- Q3)** a) Define 'Frontier'. [2]
b) Discuss the problems of border states in India. [4]
c) Critically evaluate Mackinder's theory. [4]
- Q4)** a) What is territoriality? [2]
b) Distinguish between frontier and boundary. [4]
c) Explain the water disputes in India. [4]

P.T.O.

- Q5)** a) Explain the origin and evolution of states. [4]
b) Explain the geo-strategic view of Mahan. [5]
- Q6)** a) Write in brief history and development of Political Geography. [4]
b) Describe morphological classification of boundaries. [5]



Total No. of Questions : 6]

SEAT No. :

P981

[Total No. of Pages : 1

[5435] - 308
M.A./M.Sc. (Semester - III)
GEOGRAPHY
Gg - 322 : Geography of Soils
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to 4.*
- 2) *Question No. 5 and 6 are compulsory*
- 3) *Draw / figures / maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*

- Q1)** a) What is palaeosoils? [2]
b) Describe the parent material and topography affect soil formation. [4]
c) What do you understand by soil PH and soil colloids? [4]
- Q2)** a) State the importance of soil temperature as a physical properties of soil. [2]
b) What is the importance of organic matter in soil fertility? [4]
c) Explain the role of salinization and acidification in soil degradation. [4]
- Q3)** a) Define Redox potential. [2]
b) Describe land suitability classification. [4]
c) Write an account of clay minerals and their distribution in soil profile. [4]
- Q4)** a) What do you mean by soil texture? [2]
b) Describe the role of chemical weathering in soil formation. [4]
c) Give an account of morphological features of soil horizons. [4]
- Q5)** a) Describe processes of soil profile development. [4]
b) Write an account of bio-chemical properties of soils. [5]
- Q6)** a) Explain the importance of bulk density and porosity of soils. [4]
b) Discuss the relationship between soils and forests. [5]



Total No. of Questions : 6]

SEAT No. :

P982

[Total No. of Pages : 1

[5435] - 309

M.A./M.Sc. (Semester - III)

GEOGRAPHY

Gg - 303 : Research Method in Geography

(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.No.4.
- 2) Question No. 5 and 6 are compulsory.
- 3) Figures to the right indicate full marks.
- 4) Use of map stencils is allowed.

- Q1)** a) What is geodetic survey? [2]
b) Describe the indexing system of SOI toposheet. [4]
c) Write a note on 'UTM' projection. [4]
- Q2)** a) What is fiducial mark? [2]
b) Explain the methods of theodolite survey. [4]
c) Explain database creation for physical features from SOI toposheet. [4]
- Q3)** a) What do you mean by parametric tests? [2]
b) Discuss the application of multivariate correlation analysis in geographical research. [4]
c) Write a note on 'testing of hypothesis'. [4]
- Q4)** a) Define GIS. [2]
b) Discuss the importance of field sampling questionnaire in data collection. [4]
c) Write a note on 'satellite image as an important source of data'. [4]
- Q5)** a) Elaborate the importance of field mapping in geographical research. [4]
b) What is survey of literature? Write a note on literature review. [5]
- Q6)** a) Discuss the technique of writing 'Research Problem' in scientific report. [4]
b) Discuss the technique of spatial data analysis in GIS. [5]



Total No. of Questions : 6]

SEAT No. :

P983

[Total No. of Pages : 1

[5435] - 310
M.A./M.Sc. (Semester - III)
GEOGRAPHY
Gg - 304 : Social and Cultural Geography
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q.No.1 to Q.No.4.*
- 2) Questions 5 and 6 are compulsory.*
- 3) Draw figures /map wherever necessary.*
- 4) Figures to the right indicate full marks.*
- 5) Use of map stencils is allowed.*

- Q1)** a) Name the early contributors in social geography. [2]
b) Describe the structure of modernization in detail. [4]
c) Explain the concept of quality of life and human development. [4]
- Q2)** a) Define the term 'Welfare'. [2]
b) Describe the components and indicator's of social well being. [4]
c) Describe rural -urban contrasts in housing and education. [4]
- Q3)** a) Enlist the name of Economic activities. [2]
b) Discuss the individual and social space. [4]
c) Describe the process of settlement pattern. [4]
- Q4)** a) Write the parameters for measurement of Human Development Index. [2]
b) Discuss the trends in cultural geography. [4]
c) Describe the structure of urbanization. [4]
- Q5)** a) Discuss the impact of technology on human settlements. [4]
b) Explain the base and concept of positivism. [5]
- Q6)** a) Explain the nature of study social and cultural geography. [4]
b) Explain the concept of social structure. [5]



Total No. of Questions : 6]

SEAT No. :

P984

[Total No. of Pages : 1

[5435] - 311
M.A./M.Sc. (Semester - III)
GEOGRAPHY
Gg - 306 : Geoinformatics - III
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) *Question No. 5 and 6 are compulsory.*
- 3) *Draw figures /maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencils is allowed.*

- Q1)** a) What is complex grid operation? [2]
b) What is global grid operation? [4]
c) What type of data is required to generate surfaces in spatial interpolation. [4]
- Q2)** a) Explain radiometric distortions in remotely sensed data. [2]
b) How are geometric errors removed in remotely sensed data. [4]
c) What is image enhancement? Explain any of them in detail. [4]
- Q3)** a) Write a short note on Digital Terrain Model. [2]
b) What is spatial analysis? Explain any one of them in detail. [4]
c) Explain the application of spatial interpolation. [4]
- Q4)** a) Differentiate between supervised and unsupervised classification. [2]
b) What are the applications of DEM. [4]
c) Explain multiple layer operations as analytical tasks in spatial analysis. [4]
- Q5)** a) Write a note on the classifiers used in supervised classification. [4]
b) Give an account of classification accuracy in Digital Image Processing. [5]
- Q6)** a) Explain Isodata approach in Digital Image Processing. [4]
b) Give an account of 'point pattern analysis'. [5]



Total No. of Questions : 6]

SEAT No. :

P985

[Total No. of Pages : 2

[5435] - 401

M.A./M.Sc. (Semester - IV)

GEOGRAPHY

**Gg - 401 : Theoretical and Applied Geography
(2013 Pattern) (Credit System)**

Time : 2 ½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) Question No. 5 and 6 are compulsory.*
- 3) Draw figures /maps wherever necessary.*
- 4) Use of map stencils is allowed.*
- 5) Figures to the right indicate full marks.*

- Q1)** a) Define 'Applied Geography'. [2]
b) Discuss the contribution of Ptolemy in the development of geographical thought. [4]
c) Discuss the determinism and possibilism. [4]
- Q2)** a) What do you mean by dark age? [2]
b) Give a brief account of contribution of Kant in the development of geographical thought. [4]
c) Discuss the structure and elements in Systems. [4]
- Q3)** a) What do you mean by age of discovery? [2]
b) Describe the various types of theories used in geographical studies. [4]
c) Discuss the significance of geographical concepts and techniques in land use planning. [4]
- Q4)** a) Give the various types of models. [2]
b) Discuss the application of geographical concepts and techniques in natural hazard management. [4]
c) Explain the significance of quantification in geographical studies. [4]

P.T.O.

- Q5)** a) Give an account of recent trends in geography. [4]
b) Discuss the importance of remote sensing and GIS techniques in geography. [5]
- Q6)** a) Give a brief account of contribution of German scholars in the development of geographical thought. [4]
b) Discuss the application of geographical concepts in regional planning. [5]



Total No. of Questions : 6]

SEAT No. :

P986

[Total No. of Pages : 2

[5435] - 402

M.A./M.Sc. (Semester - IV)

GEOGRAPHY

Gg - 402 : Principles of Remote Sensing and GIS
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) *Question No. 5 and 6 are compulsory.*
- 3) *Draw figures /maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencils is allowed.*

- Q1)** a) What do you mean by meteorological satellite? [2]
b) Explain the interaction of the EMR with atmosphere. [4]
c) Explain the correlation between spatial and non - spatial data. [4]
- Q2)** a) What do you mean by radiometric resolution? [2]
b) Describe the characteristics of MSS and TM. [4]
c) Describe the laws of radiation. [4]
- Q3)** a) What are the passive sensors? [2]
b) Write a note on buffer analysis. [4]
c) Write a note on 'concept of editing' in GIS. [4]
- Q4)** a) Mention the elements of image interpretation. [2]
b) Write the brief information of IKONOS satellite series. [4]
c) Write a note on 'geostationary satellites'. [4]

P.T.O.

- Q5)** a) Explain the basic concept and principles of microwave sensing. [4]
b) Describe the history of developments in the field of GIS. [5]
- Q6)** a) Describe the spectral and temporal resolution with suitable examples. [4]
b) Discuss the concept of integration of RS and GIS. [5]



Total No. of Questions : 6]

SEAT No. :

P987

[Total No. of Pages : 1

[5435] - 403
M.A./M.Sc. (Semester - IV)
GEOGRAPHY
Gg - 411 : Geostatistics
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) Question No. 5 and 6 are compulsory*
- 3) Draw figures wherever necessary.*
- 4) Figures to the right indicate full marks.*

- Q1)** a) Give any two examples of areas with counts. [2]
b) Explain the concept of point pattern in spatial data for geostatistics. [4]
c) Define any four terms used in spatial analysis in geostatistics [4]
- Q2)** a) Define dependency with respect to spatial data analysis. [2]
b) Explain the role of frequency tables and histogram in Exploratory Spatial Data Analysis (ESDA). [4]
c) Explain the role of scatter plots and covariance in ESDA. [4]
- Q3)** a) Define spatial autocorrelation. [2]
b) Explain the concept of semivariances. [4]
c) Write a note on variogram components. [4]
- Q4)** a) What are directional corelogram? [2]
b) Write a note on normal probability plots. [4]
c) Explain the concept of Thiessen polygons. [4]
- Q5)** a) Write a note an global Vs local interpolation techniques. [4]
b) Explain the advantages of Inverse Distance Weighting (IDW). [5]
- Q6)** a) Explain the concept of linear regression. [4]
b) Write a note on descriptive statistics. [5]



Total No. of Questions : 6]

SEAT No. :

P988

[Total No. of Pages : 1

[5435] - 404

M.A./M.Sc. (Semester - IV)

GEOGRAPHY

Gg - 420 : Regional Planning and Development
(2013 Pattern) (Credit System)

Time : 2 ½ hours]

[Max. Marks : 38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.No.4.
- 2) Question No. 5 and 6 are compulsory
- 3) Figures to the right indicate full marks.
- 4) Use of map stencil is allowed.
- 5) Draw figures /maps wherever necessary.

- Q1)** a) What is hierarchy of planning? [2]
b) Describe various levels of planning. [4]
c) Discuss approaches in regional planning. [4]
- Q2)** a) Define concept of a 'region'. [2]
b) What are the type of a 'region'? [4]
c) Discuss the role of geography in regional planning. [4]
- Q3)** a) Describe various indicators of development. [2]
b) Explain in detail various techniques of planning. [4]
c) What do you mean by diagnostic surveys in regional planning. [4]
- Q4)** a) Give an account of new trends in regional planning. [2]
b) Briefly discuss regional policies of India with reference to five years plan. [4]
c) Bring out the salient features of multi-level planning in India. [4]
- Q5)** a) Give an account of planning for National capital Region. [4]
b) Explain how the metropolitan regions for planning are delineated? [5]
- Q6)** a) Define the concept of regionalisation. [4]
b) What is concentration versus dispersal? [5]



Total No. of Questions : 6]

SEAT No. :

P989

[Total No. of Pages : 1

[5435] - 405
M.A./M.Sc. (Semester - IV)
GEOGRAPHY
Gg - 421 : Geography of Water Resources
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) *Question No. 5 and 6 are compulsory*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of map stencil is allowed.*
- 5) *Draw figures /maps wherever necessary.*

- Q1)** a) What do you mean by percolation and runoff. [2]
b) Describe hydrological cycle in detail with the help of a suitable diagram.[4]
c) 'Water as a renewable resource' - Discuss. [4]
- Q2)** a) Give an account of World's surface and subsurface fresh water resources.[2]
b) Explain utilization of water by Municipal and domestic sector. [4]
c) Describe the moisture surplus and deficit regions of India. [4]
- Q3)** a) Discuss major and minor methods of distribution of water to farms. [2]
b) Explain in detail soil - water - crop relationship. [4]
c) Outline the measures to be taken for soil and water conservation. [4]
- Q4)** a) What do you mean by drought? [2]
b) Write an account of flood management practices. [4]
c) Write a note on conservation and planning for the development of water resources. [4]
- Q5)** a) Write in detail about integrated basin planning. [4]
b) Write a short note on 'India's Water Treaty'? [5]
- Q6)** a) Kaveri and Krishna Water Disputes - Elaborate. [4]
b) What are the special remedies to increase ground water level by collection of rainwater. [5]



Total No. of Questions : 6]

SEAT No. :

P990

[Total No. of Pages : 1

[5435] - 406
M.A./M.Sc. (Semester - IV)
GEOGRAPHY
Gg - 422 : Biogeography
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to 4.*
- 2) *Question No. 5 and 6 are compulsory*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw figures /maps wherever necessary.*

- Q1)** a) Define biogeography. [2]
b) Discuss the variety of island habitats. [4]
c) Give an account of zoogeographical provinces in the world. [4]
- Q2)** a) What do you mean by ecological succession. [2]
b) Give a brief account of evolution of life on earth. [4]
c) Discuss the distribution patterns of biodiversity. [4]
- Q3)** a) What is the meaning of endemics. [2]
b) Describe tundra biome. [4]
c) Describe the island as an area of isolation. [4]
- Q4)** a) What is paleomagnetism? [2]
b) Discuss regional climate and species richness. [4]
c) Describe evolution and adaptation as basic processes of biogeography. [4]
- Q5)** a) Critically examine the factors of physical limitation of life. [4]
b) Describe ancient patterns in the distribution of plants and animals. [5]
- Q6)** a) Give a brief account of floral kingdom in biogeography. [4]
b) Describe evergreen forest as a major terrestrial biomes. [5]



Total No. of Questions : 6]

SEAT No. :

P991

[Total No. of Pages : 1

[5435] - 407
M.A./M.Sc. (Semester - IV)
GEOGRAPHY
Gg - 423 : Oceanography
(2013 Pattern) (Credit System)

Time : 2 ½ hours]

[Max. Marks :38

Instructions to the candidates:

- 1) Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) Question Nos. 5 and 6 are compulsory.*
- 3) Draw figures /maps wherever necessary.*
- 4) Figures to the right indicate full marks.*

- Q1)** a) Define Oceanography. [2]
b) Write a note on post war oceanography. [4]
c) Explain the modern trends in the study of oceanography. [4]
- Q2)** a) What do you mean by abyssal plains? [2]
b) Describe factors affecting the temperature of sea water. [4]
c) Discuss sea floor spreading with reference to origin of ocean basins.[4]
- Q3)** a) Define ideal sea wave. [2]
b) Write a note on 'carbondioxide cycle'. [4]
c) Write a note on 'coral reef'. [4]
- Q4)** a) Define spring tide. [2]
b) Explain the physical properties of sea water. [4]
c) Discuss the factors affecting density of ocean water. [4]
- Q5)** a) Explain types and characteristics of sea waves. [4]
b) Discuss tide generating forces and explain 'Dynamical theory of tides'. [5]
- Q6)** a) Explain wave diffraction. [4]
b) Give an account of marine sediments on the basis of their origin. [5]



Total No. of Questions : 6]

SEAT No. :

P992

[Total No. of Pages : 1

[5435] - 408
M.A./M.Sc. (Semester - IV)
GEOGRAPHY
Gg - 424 : Natural and Manmade Hazards
(2013 Pattern) (Credit System)

Time : 2 ½ hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from Q. No. 1 to Q.No.4.*
- 2) *Question No. 5 and 6 are compulsory*
- 3) *Draw figures /maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*

- Q1)** a) Classify natural hazards. [2]
b) Distinguish between hazards and disasters. [4]
c) Give a brief account of the hail storm occurred in Maharashtra in 2014. [4]
- Q2)** a) What are flash floods? [2]
b) Explain the causes of droughts. [4]
c) Describe the effects of floods. [4]
- Q3)** a) What is tsunami? [2]
b) Explain the causes of Earthquakes. [4]
c) Describe the effects of landslides. [4]
- Q4)** a) What do you mean by man - made hazard? [2]
b) Discuss the factors contributing to man-made hazards. [4]
c) Explain the impacts of large river projects. [4]
- Q5)** a) Write a note on nuclear hazards. [4]
b) Explain the effects of population growth on biodiversity. [5]
- Q6)** a) Explain the issue of ozone depletion. [4]
b) Discuss 'recovery and rehabilitation in disaster management. [5]



Total No. of Questions : 5]

SEAT No. :

P993

[Total No. of Pages : 1

[5435] - 409

M.A./M.Sc. (Semester - IV)

GEOGRAPHY

Gg - 441 : Principles of Regional Geography and Project Work
(2013 Pattern) (Credit System)

Time : 1 ½ Hours]

[Max. Marks :25

Instructions to the candidates:

- 1) *Attempt any two questions from question No. 1 to 3.*
- 2) *Attempt any one question from question No.4 to 5.*
- 3) *Draw figures /maps wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of map stencils and calculator is allowed.*

- Q1)** a) What is regional planning? [2]
b) Define regionalisation with suitable examples. [4]
c) Discuss the criticism of growth pole theory. [4]
- Q2)** a) What is 'region'? [2]
b) Explain macro level planning. [4]
c) Write the assumptions of central place theory. [4]
- Q3)** a) Explain the principles of regional geography. [2]
b) Explain the applications of growth pole theory. [4]
c) Discuss the principles in the arrangement of central places. [4]
- Q4)** a) Explain how regional disparity differs with geographical regions. [2]
b) Explain applications of Gunnar Myrdal's cumulative causation theory in the Indian context. [3]
- Q5)** a) Write about the different types of remedies for regional balance. [2]
b) Describe the geographic causes of regional disparities. [3]



Total No. of Questions : 6]

SEAT No. :

P994

[Total No. of Pages : 1

[5435] - 410

M.A./M.Sc. (Semester - IV)

GEOGRAPHY

Gg - 404 : Geography of Food Security of India
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) Attempt any two questions from question No. 1 to 4.
- 2) Q.5 and Q.6 are compulsory.
- 3) Draw figures /maps wherever necessary.
- 4) Figures to the right indicate full marks.

- Q1)** a) What do you mean by Food Security? [2]
b) Explain the food availability in India. [4]
c) Discuss the problem of malnutrition in India. [4]
- Q2)** a) What is hunger? [2]
b) Discuss the agricultural productivity in India. [4]
c) Describe the physical factors affecting food security. [4]
- Q3)** a) What do you mean by cash crops? [2]
b) Explain the land rights in India. [4]
c) Describe the socio-economic factors affecting food security. [4]
- Q4)** a) Define food justice. [2]
b) Discuss the food security condition in India. [4]
c) Describe the distribution of major food crops in India. [4]
- Q5)** a) Discuss the role of media in food security. [4]
b) Discuss India's Food security Bill, 2013. [5]
- Q6)** a) Discuss the Food Security and gender inequalities. [4]
b) Describe the importance of Food Security in India. [5]



Total No. of Questions : 6]

SEAT No. :

P995

[Total No. of Pages : 1

[5435] - 411
M.A./M.Sc. (Semester - IV)
GEOGRAPHY
Gg - 405 : Geography of Health
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) *Attempt any two questions from question No. 1 to 4.*
- 2) *Question No.5 and 6 are compulsory.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of map stencils is allowed.*
- 5) *Draw figure /map wherever necessary.*

- Q1)** a) Define Geography of Health. [2]
b) Discuss approaches to Geography of health. [4]
c) Describe the challenges of health care. [4]
- Q2)** a) Explain various types of communicable diseases. [2]
b) Discuss the geographical factors affecting health. [4]
c) Explain deficiency diseases with example. [4]
- Q3)** a) What is non communicable diseases (NCD)? [2]
b) Describe problems of malnutrition. [4]
c) Describe health care systems in India. [4]
- Q4)** a) What is health hazard? [2]
b) Explain the impact of pollution on human health. [4]
c) Discuss the health problems of tribal communities in India. [4]
- Q5)** a) Discuss the significance of primary health care centres. [4]
b) Describe the role of climate change in upcoming communicable diseases. [5]
- Q6)** a) Explain WHO classification of diseases. [4]
b) Describe how geographical factors affect human health in peri-urban areas. [5]



Total No. of Questions : 6]

SEAT No. :

P996

[Total No. of Pages : 1

[5435] - 412

M.A./M.Sc. (Semester - IV)

GEOGRAPHY

Gg - 407 : Regional Geography of SAARC Countries
(2013 Pattern) (Credit System)

Time : 2 ½ Hours]

[Max. Marks :38

Instructions to the candidates:

- 1) Attempt any two questions from question No. 1 to 4.
- 2) Question No.5 and 6 are compulsory.
- 3) Figures to the right indicate full marks.
- 4) Use of map stencils is allowed.
- 5) Draw diagrams/maps wherever necessary.

- Q1)** a) Name the major rivers in India. [2]
b) Describe the climate of Bhutan. [4]
c) Explain the physiography of Nepal. [4]
- Q2)** a) Mention the types of vegetation in Sri Lanka. [2]
b) Describe the climate of Bangladesh. [4]
c) Explain the physiography of MALDIVES. [4]
- Q3)** a) State the latitudinal and longitudinal extent of India. [2]
b) Explain the cultural attributes of Pakistan. [4]
c) Describe the drainage of Afghanistan. [4]
- Q4)** a) Give the types of forests in Nepal. [2]
b) Discuss the demographic characteristics of India. [4]
c) Describe the drainage pattern of Sri Lanka. [4]
- Q5)** a) Explain the climatic conditions of India. [4]
b) Explain the importance and relevance of SAARC countries. [5]
- Q6)** a) Describe the cultural attributes of Nepal. [4]
b) Explain the physiographic units in India. [5]

