

Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3132**

**[5031]-11**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg. - 101 : Principles of Geomorphology  
(2008 Pattern) (Semester - I) (Credit System)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Define Geomorphology and discuss it's nature and scope.

*Q2)* Give an account of Holmes Convection Current Theory.

*Q3)* Give an account of theory of Isastasy.

*Q4)* How do you distinguish between weathering and erosion?

*Q5)* Give an account of 'Davisian Cycle of erosion'.

*Q6)* Giving types of Glaciers, explain the mechanism of glacial erosion.

*Q7)* Write notes on any two:

- a) Concept of peneplanation.
- b) Ergodic principle.
- c) Modes of slope evolution.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3133**

**[5031] - 12**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 102 : Principles of Climatology  
(2008 Pattern) (Semester - I)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Define climatology. Describe the various subdivisions of climatology.

*Q2)* Explain the structure of the atmosphere with the help of a neat diagram.

*Q3)* What is insolation? Explain the heat budget.

*Q4)* Discuss the tricellular model of general circulation of the atmosphere.

*Q5)* Explain hydrological cycle with the help of a diagram.

*Q6)* What are airmasses? Explain how the airmasses are classified.

*Q7)* Write notes on any two:

- a) Inversion of temperature.
- b) Observed distribution of surface pressure.
- c) Measures of humidity.



Total No. of Questions :7]

**P3134**

SEAT No. :

[Total No. of Pages :1

[5031]-13

M.A./M.Sc.

**GEOGRAPHY**

**GG-103:Principles of Economic Geography  
(2008 Pattern) (Semester-I)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Define economic geography ? Explain its nature and scope.

*Q2)* “Hypothesis in economic geography are essential for analysis” Discuss.

*Q3)* Explain the influence of labour and capital on production.

*Q4)* Describe the significance of Ricardo’s Classical Theory in International trade.

*Q5)* Explain the impact of green. revolution on Indian economy.

*Q6)* Describe the spatial aspects of international trade.

*Q7)* Write notes on any two.

- a) Regional disparity
- b) Privatization.
- c) Modern economic landscape.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3135**

**[5031]-14**

**M.A. /M.Sc.**

**GEOGRAPHY**

**Gg-104:Principles of Population and Settlement Geography  
( 2008 Pattern) (Semester-I)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instructions to the candidate:*

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

**Q1)** Describe the man-environment relationship with respect to settlements.

**Q2)** Describe the various approaches to the study of settlement and population geography.

**Q3)** Discuss the effect of technology on patterns of settlement from neolithic to modern period.

**Q4)** Discuss the various concept's related to settlements .

**Q5)** Describe the economic and social factors influencing the distribution of population.

**Q6)** Critically examine the 'Thomas Malthus's theory of population.

**Q7)** Write notes on Any Two.

- a) Nearest neighbour method.
- b) Industrialisation and urbanisation
- c) Population as resource.



Total No. of Questions : 7]

SEAT No. :

**P3136**

**[5031]-21**

[Total No. of Pages : 2

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg. - 201 : Quantitative Techniques in Geography  
(2008 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) *Attempt any four questions.*
- 2) *Use of calculator and statistical table is allowed.*
- 3) *Figures to the right indicate full marks.*

- Q1)** a) Write a note on spatial and temporal data. **[6]**
- b) Calculate the mean and median for the following ungrouped data of rainfall in cm of the Mutai rain gauge station of Madhya Pradesh from 1901 to 1930. **[14]**

90	81	92	47	97	109	82	92	83	114	79	72	100	99	102
176	108	43	114	73	60	81	77	111	63	74	87	100	78	74

- Q2)** a) What are nominal and ordinal scales of measurement? **[6]**
- b) Calculate the standard deviation for the following ungrouped discharge data available in m<sup>3</sup>/s for the Purna River at Gopalkheda for the month of August 1979. **[14]**

240	239	247	239	250	244	241	240	241	252	249	242	242	240	240	240
239	239	239	239	239	238	238	238	238	238	238	238	238	239	238	

- Q3)** a) Explain kurtosis. **[6]**
- b) The average (mean) annual rainfall of the Mandvi Station in Surat District of Gujarat is 144 cm and standard deviation is 51 cm. Assuming that the distribution is normal, what is the probability that, the year 2015 will receive **[14]**

**P.T.O.**

- i) Less than 120 cm of rainfall
- ii) More than 170 cm of rainfall
- iii) Exactly 140 cm of rainfall
- iv) Between 130 and 150 cm of rainfall.

- Q4)** a) What is Binomial Probability Distribution? [6]  
 b) Calculate 3-year moving average for the following data of annual rainfall totals in cm for the Pansamel (Toppa). [14]

Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Rainfall in cm	88	67	96	61	45	54	49	114	20	93
Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Rainfall in cm	32	57	73	92	41	70	74	92	72	72

- Q5)** a) Write a note on trends and periodicity in time series. [6]  
 b) The following table contains data on population of North America from 1920 to 1960. Apply least squares method and plot the data with the regression line. [14]

Year (x)	1920 (-2)	1930(-1)	1940(0)	1950(1)	1960(2)
Population in million (Y)	117	134	144	166	199

- Q6)** In a survey among villages, the diet of 100 randomly selected adult males was calculated to contain a mean daily calories value of 2000, with standard deviation of 250. Calculate the standard error of mean and the standard deviation. [20]

- Q7)** Write notes on any two: [20]
- a) Level of significance.
  - b) Variance and standard deviation.
  - c) Concept of correlation.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3137**

**[5031]-22**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg- 210:Tropical Geomorphology  
( 2008 Pattern) (Semester-II)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instruction to the candidates:*

- 1) Attempt any four questions.*
- 2) All question carry equal mark.*
- 3) Use of map stencil is allowed.*

**Q1)** What is 'Morphogenesis'? Describe different morphogenetic regions.

**Q2)** Explain with example different types of chemical weathering processes in the tropics.

**Q3)** What is duricrust? Describe different types of duricrust.

**Q4)** Explain in detail the role of Structure and climate in landscape evolution.

**Q5)** Explain the processes of erosion and deposition of tropical rivers.

**Q6)** Describe the formation of peneplains in the tropics and discuss double surfaces of planation.

**Q7)** Write notes on (any two):

- a) Indurated laterite
- b) Elements of hill slopes
- c) Evolution of landforms



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3138**

**[5031]-23**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg. 211:Synoptic Climatology**

**( 2008 Pattern) (Semester-II) (Credit System)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instruction to the condidates:*

- 1) *Attempt any four questions.*
- 2) *All questions carry equal mark.*
- 3) *Use of map stencil is allowed.*

**Q1)** Give an account of the formation of easterly waves.

**Q2)** Explain the origin and structure of thunderstorms and their environmental impact.

**Q3)** Explain air masses of Asia and describe principal zones of frontogenesis.

**Q4)** Describe the types of precipitation.

**Q5)** Discuss the synoptic method of forecasting and importance of satellites in weather forecasting.

**Q6)** Give an account of benefits of weather forecasting in aviation and disaster prevention.

**Q7)** Write notes on (any two)

- a) Approaches to Synoptic Climatology
- b) Western disturbances.
- c) Meteorological codes and data exchange.





Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3139**

**[5031]-24**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg-212:Agricultural Geography  
( 2008 Pattern) (Semester-II)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instruction:*

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

*Q1)* Define Agricultural Geography? Explain its nature and scope.

*Q2)* Explain the impact of climate and soil on agricultural patterns.

*Q3)* Explain with example subsistence farming.

*Q4)* Describe causes and effects of drought prone area in India.

*Q5)* Critically analyse Thomas's method of crop combination.

*Q6)* Differentiate between systematic and commodity approach.

*Q7)* Write notes on (any two)

- a) Kendall's ranking.
- b) Plantation agriculture.
- c) Irrigation methods and agricultural development.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3140**

**[5031]-25**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg. 213:Population Geography  
( 2008 Pattern) (Semester-II) (Credit System)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instruction to the candidates:*

- 1) Attempts any four questions.*
- 2) All questions carry equal mark.*
- 3) Use of map stencils is allowed.*

*Q1)* Define population geography and explain its nature and scope.

*Q2)* Discuss the factors affecting growth of population.

*Q3)* Critically examine the 'Malthusian population Theory'.

*Q4)* Discuss the fertility level and trends in developing countries.

*Q5)* Describe the factors related to high mortality in the past.

*Q6)* Discuss the causes and consequences of migration.

*Q7)* Write notes on (any two)

- a) Age and sex pyramid.
- b) Population projection.
- c) Population policies after world war II.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3141**

**[5031]-26**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg. 214:Geoinformatics-I  
( 2008 Pattern) (Semester-IV)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instruction:*

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

**Q1)** Define GIS and explain potential of GIS.

**Q2)** Explain spatial database in GIS.

**Q3)** What are data models in GIS? Give a comparative overview of raster and vector data models.

**Q4)** Giving types of digitizers, explain the advantages of automatic digitization.

**Q5)** Give an account of operations from ‘Algebraic theory’.

**Q6)** What is Map Algebra? Give the advantages of studying Map Algebra in data analysis.

**Q7)** Write notes on (any two)

- a) History of GIS
- b) GIS tasks
- c) Geometric primitives



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3142**

**[5031]-27**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg . 220 : Fluvial Geomorphology  
(2008 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) *Attempt any Four questions.*
- 2) *All questions carry equal marks.*
- 3) *Use of map stencils is allowed.*

**Q1)** Discuss 'The drainage basin as a geomorphic unit'.

**Q2)** How do you distinguish between uniform flow and non uniform flow? Explain regimes of flow.

**Q3)** Explain the term 'belt of no erosion'. Explain why and how the length of this belt changes with development of drainage network.

**Q4)** Distinguish between suspended and bed load and discuss modes of sediment transport.

**Q5)** Differentiate between various channel patterns observed in a river and explain meandering channel.

**Q6)** Give an account of fluvial depositional features.

**Q7)** Write notes on any two:

- a) Horton's overland flow.
- b) Concept of grade.
- c) River metamorphosis.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3143**

**[5031]-28**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 221 : Monsoon Climatology  
(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) *Attempt any Four questions.*
- 2) *All questions carry equal marks.*
- 3) *Use of map stencils is allowed.*

**Q1)** Define Monsoon Climatology and explain its environmental and economic importance.

**Q2)** Explain the thermal and aerological concepts of origin of Monsoons.

**Q3)** Give an account of summer and Indian Monsoon.

**Q4)** Give the pattern of distribution of sea level atmospheric pressure during summer Monsoon.

**Q5)** Explain the role of oceans and upper atmosphere in teleconnection.

**Q6)** Give an account of Monsoon depression and mid-troposphere cyclone.

**Q7)** Write notes on any two:

- a) Monsoon of South Asia.
- b) Annual cycle of summer Monsoon.
- c) Features of predictors in forecasting.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3144**

**[5031]-29**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg-222: Industrial Geography  
(2008 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Define 'Industrial Geography'. Explain the scope of industrial geography.

*Q2)* Explain the physical factors affecting industrial location.

*Q3)* Critically examine Weber's theory of industrial location.

*Q4)* Give an account of changing pattern and distribution of iron and steel industry.

*Q5)* What is industrial region? Explain the problems and prospects of industrial regions of Japan.

*Q6)* Write a geographical essay on regional development of industries in India.

*Q7)* Write notes on Any Two:

- a) Nature of software industry in India.
- b) Agglomeration of industries.
- c) Distribution of chemical industry.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3145**

**[5031]-30**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg-223: Geography of Rural Settlement  
(2008 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Explain with suitable examples the reflection of geographical aspects in the place names of settlement.

**Q2)** Describe various factors affecting site and distribution of settlements.

**Q3)** Describe how distance from market place influences rural land use.

**Q4)** Describe functional growth and socio-economic transformation in rural areas.

**Q5)** Describe demographic characteristics of rural settlements.

**Q6)** Discuss population and amenities are the vital aspects of rural development planning.

**Q7)** Write note on any two:

- a) Seasonal Migration.
- b) Von Thunne's Model.
- c) House types in Maharashtra.

*EEE*

Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3146**

**[5031]-30A**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 224 : Geoinformatics (Paper - II)  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) *Attempt any Four questions.*
- 2) *All questions carry equal marks.*
- 3) *Use of map stencils is allowed.*

**Q1)** Give an account of primary and secondary data sources in Geoinformatics.

**Q2)** Explain the concept of black body radiation and discuss various laws of radiation.

**Q3)** Describe various types of remote sensing.

**Q4)** Describe various components of an aerial camera.

**Q5)** Give an account of measurement of scale and height on aerial photograph.

**Q6)** Describe various types of sensors in Remote Sensing.

**Q7)** Write notes on any two:

- a) History of RS in India.
- b) Atmospheric windows.
- c) Components and types of GPS receivers.





Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P3147**

**[5031]-31**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg. - 301 : Theoretical and Applied Geography  
(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Explain the major contributions during the medieval period in the development of Geography.

**Q2)** Discuss the contribution of Humbolt and Ritter in the development of geographical thought.

**Q3)** Examine the concept of dualism with reference to determinism and possibilism.

**Q4)** Discuss the different types of models used in geographical studies.

**Q5)** Describe the quantitative revolution in geography.

**Q6)** Explain the applications of geographical concepts and techniques in environmental and natural hazards management.

**Q7)** Write note on any two:

- a) Contribution of Arab School.
- b) Significance of Applied Geography.
- c) Hypothesis testing.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3148**

**[5031] - 32**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 310 : Coastal Geomorphology  
(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) Attempt any four questions.*
- 2) All questions carry equal marks.*
- 3) Draw figures/maps wherever necessary.*
- 4) Use of map stencils is allowed.*

**Q1)** Describe types of sea waves and explain wave refraction and diffraction in detail.

**Q2)** What are shore currents? Explain wind, river and tide induced currents.

**Q3)** Describe fossil beach ridges, beach rock and abandoned sea cliffs as indicators of former sea level change.

**Q4)** Describe grain size characteristics of coastal sediments and explain properties of clastic and biogenic sediments.

**Q5)** Give an account of fluvial dominated coasts giving suitable examples.

**Q6)** Define shore platform. Explain the morphology and formation of shore platform forms.

**Q7)** Write notes on any two:

- a) Spatial and temporal scales in coastal geomorphology.
- b) Estuaries and mudflat morphology.
- c) Coastal erosion a current coastal issue.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3149**

**[5031] - 33**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 311 : Applied Climatology  
(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Explain different radiation laws and describe various instruments used to measure precipitation.

*Q2)* Discuss the role of micro-meteorological changes and behavior of pests and diseases.

*Q3)* Explain nature of urban climate and urban heat island.

*Q4)* Give in details impact of climate variables on industrial and commercial activities.

*Q5)* Explain the importance of Remote Sensing in meteorological study monitoring and plant stress detection.

*Q6)* Discuss Astronomical Theory of climate change.

*Q7)* Write notes on any two:

- a) Impact of climate on human health.
- b) Heating degree-days.
- c) Effect of climate on water transport.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3150**

**[5031] - 34**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 312 : Trade and Transport Geography  
(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Explain the significance of transportation in world economic regions.

*Q2)* Describe the factors influencing on railways growth.

*Q3)* Explain the correlation between transportation and environmental degradation.

*Q4)* Explain Geographical factors influencing trade.

*Q5)* Explain with examples the types of trade.

*Q6)* Critically evaluate Neo-classical theory of International trade.

*Q7)* Write notes on any two:

- a) Traffic flow as measurement of accessibility.
- b) Globalisation and trade.
- c) Concept of balance of trade.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3151**

**[5031] - 35**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg - 313 : Urban Geography**

**(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Define 'Urban Geography'. Explain how the nature of urban geography is dynamic and interdisciplinary.

**Q2)** Explain the behavioral structural and demographic concepts of urbanisation.

**Q3)** Explain the characteristics of CBD.

**Q4)** What is rural-urban fringe? Describe the methods of demarcation of rural-urban fringe.

**Q5)** Explain the problems of urban environmental pollution.

**Q6)** What is urban planning? Discuss the master plan of towns.

**Q7)** Write notes on Any Two:

- a) Urban functions.
- b) Urban morphology.
- c) Nature of urban influence.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3152**

**[5031] - 36**

**M.A. / M.Sc.**

**GEOGRAPHY**

**Gg : 314 Geoinformatics - III  
(2008 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Give an account of zonal and global grid operations in GIS.

**Q2)** Write an account of global and local methods of interpolation.

**Q3)** Give an account of surface analysis.

**Q4)** Explain various sources of distortions in satellite data.

**Q5)** Give an account of supervised image classification.

**Q6)** Give an account of Microwave Remote Sensing.

**Q7)** Write notes on any **two**

- a) GCP tools
- b) NDVI
- c) SRTM data



Total No. of Questions :7]

P3153

SEAT No. :

[Total No. of Pages :2

[5031]-37

M.A./M.Sc.

GEOGRAPHY

Gg-320 : Multivariate Statistics  
(2008 Pattern) (Semester-III)

Time : 3 Hours]

[Max. Marks :80

Instructions to the candidates:

- 1) Attempt any four questions.
- 2) All questions carry equal marks.
- 3) Use of calculators, statistical tables etc. is allowed.

Q1) a) Find  $(A+B) - C$  [6]

$$A = \begin{pmatrix} 55 & 56 & 50 \\ 435 & 65 & 45 \\ 21 & 20 & 25 \end{pmatrix} \quad B = \begin{pmatrix} 12 & 22 & 15 \\ 325 & 45 & 45 \\ 12 & 23 & 21 \end{pmatrix} \quad C = \begin{pmatrix} 21 & 122 & 145 \\ 356 & 444 & 368 \\ 355 & 92 & 325 \end{pmatrix}$$

b) Find  $A * B$  [6]

c) Find the inverse of the matrix A. [8]

Q2) Find and plot the second degree bivariate non linear regression equation for the following observations. [20]

X	5	10	15	20	25	30	35	40	45	50
Y	5	8	15	18	20	16	14	11	7	6

Q3) Using the following data compute multiple regression equation. Obtain the explained variance and interpret the results. [20]

y	15	18	22	25	28	31	32
x1	3	5	9	12	15	18	19
x2	5	6	7	9	10	12	12.5

P.T.O.

**Q4)** Find the equation and plot the linear Trend Surface for the following observations. Calculate, the explained variance. **[20]**

X	5	5	10	15	15	10	20	20	25	25	30
Y	10	20	40	20	60	80	30	80	30	80	90
Z	0.5	0.8	1.2	0.85	2	3.2	1	3.8	1	4	4.2

**Q5)** Obtain the first principal component from the given correlation matrix and interpret the results. **[20]**

	X1	X2	X3	X4	X5
X1	1.0000				
X2	0.3316	1.0000			
X3	0.6891	0.7256	1.0000		
X4	0.5235	0.8546	0.2221	1.0000	
X5	0.0222	0.5681	0.7845	0.4581	1.0000

**Q6)** For the table given in Q.5, obtain the first factor and explained variance. **[20]**

**Q7)** Write notes on any two: **[20]**

- Types of matrices
- Curvilinear relationship
- Application of TSA in earth sciences





Total No. of Questions :7]

**P3154**

SEAT No. :

[Total No. of Pages :1

**[5031]-38**

**M.A/M.Sc.**

**GEOGRAPHY**

**GG-321:Political Geography  
(2008 Pattern) (Semester-III)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Describe nature. Scope and development of 'Political geography'.

*Q2)* Discuss various approaches to the study of 'Political geography'.

*Q3)* Explain the concepts of nation and state and differentiate between them.

*Q4)* Describe the morphological classification of boundaries.

*Q5)* Explain Mackinder's Heartland Theory and Global strategic views.

*Q6)* Explain the geopolitical significance of Indian Ocean

*Q7)* Write notes on any two:

- a) Genetic classification of boundaries.
- b) Emergence of new states in India.
- c) Unified field theory.



Total No. of Questions :7]

**P3155**

SEAT No. :

[Total No. of Pages :1

**[5031]-39**

**M.A./M.Sc.**

**GEOGRAPHY**

**Gg-322: Soil Geography  
(2008 Pattern) (Semester-III)**

*Time :3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

- 1) Attempt any four questions.*
- 2) All questions carry equal marks.*
- 3) Use of calculators, statistical tables etc is allowed.*

*Q1)* Explain the relationship between human geography and soils. **[20]**

*Q2)* Discuss parent material and vegetation as a soil formation factors. **[20]**

*Q3)* Describe chemical properties of soil. **[20]**

*Q4)* Describe the genetic structure of soils. **[20]**

*Q5)* Give an account of chemical weathering and soils. **[20]**

*Q6)* Write an account of land capability classification. **[20]**

*Q7)* Write notes on any two. **[20]**

- a) Hydrology and soils
- b) Acidification
- c) Soil fertility decline.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3156**

**[5031]-41**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg -401:Resource Management  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* What is resource management? Discuss the models of resource management.

*Q2)* Explain the various bases of classification of resources.

*Q3)* Discuss the management of cultural resources.

*Q4)* Explain the appraisal of resources with reference to population.

*Q5)* “Sustainable resource development is the need of the hour”Discuss

*Q6)* Discuss the development policies of industries in India

*Q7)* Write notes on Any Two:

- a) Conservation of mineral resources.
- b) Population as a resource.
- c) Distribution of forest resources in India.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages :1

**P 3157**

**[5031] - 42**

**M.A/M. Sc.**

**GEOGRAPHY**

**Gg - 420 : Regional planning and Development  
(2008 Pattern) (Semester -IV)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instructions to the candidates :*

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

*Q1)* Discuss the role of Geography in regional planning.

*Q2)* Define the term region. Explain the types of regions.

*Q3)* Explain the importance of techno-economic surveys in the planning.

*Q4)* Describe the methodology of regional planning.

*Q5)* Discuss the planning strategies in developing countries.

*Q6)* Write an analysis about regional disparities in India.

*Q7)* Write notes on any two.

- a) Scope of regional planning.
- b) Techniques of regional planning.
- c) Methods of regionalisation.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages :1

**P3158**

**[5031] - 43**

**M.A./M. Sc.**

**GEOGRAPHY**

**Gg - 421 : Geography of Water Resources  
(2008 Pattern) (Semester -IV)**

*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.*

**Q1)** Define hydrological Cycle. Give a geographical account of surface water resources on the earth.

**Q2)** Describe different methods of irrigation.

**Q3)** Discuss about domestic demand of water and write in detail about water pollution.

**Q4)** Discuss the problems associated with abundance and scarcity of water resources.

**Q5)** Describe various conservation practices, management and development of water resources.

**Q6)** Write an account of inter-state water disputes with reference to India.

**Q7)** Write notes on any Two.

- a) Evaporation and infiltration.
- b) Floods.
- c) Drought Management.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages :1

**P 3159**

**[5031] - 44**  
**M.A/M. Sc.**  
**GEOGRAPHY**  
**Gg - 422 : Biogeography**  
**(2008 Pattern) (Semester -IV)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instructions to the candidates :*

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

*Q1) Discuss nature, scope and relevance of Biogeography.*

*Q2) Discuss various Zoogeographical provinces as a biogeographic pattern.*

*Q3) 'Evolution and adaptation as a basic biogeographic processes' Discuss.*

*Q4) Discuss various patterns of rarity.*

*Q5) Give an account of ecological succession.*

*Q6) Describe variety of Island habitats.*

*Q7) Write notes on any two.*

- a) Evolution of life on Earth.
- b) Altitudinal zonation.
- c) Evidences of paleomagnetism.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3160**

**[5031] - 45**

**M.A. / M.Sc.**

**GEOGRAPHY**

**Gg - 423 : Geography and Ecosystem  
(2008 Pattern) (Semester - IV)**

*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.*

**Q1)** Explain the concept of ecosystem and describe the components of ecosystem in detail.

**Q2)** Write a detailed account of structure and functioning of an ecosystem.

**Q3)** What do you mean by terrestrial ecosystem? Explain in detail the grassland and forest ecosystems of the world.

**Q4)** Write an account of ecological imbalance with reference to soils and energy resources.

**Q5)** Elaborate the ecology of mountain ecosystem with special reference to Aravali hills.

**Q6)** Describe the Indian 'Environment Protection Act and National Environment Tribunal Act'.

**Q7)** Write notes on **any two**:

- a) Nitrogen and oxygen cycle.
- b) Land resources and world food security.
- c) Biodiversity and its conservation.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3161**

**[5031] - 46**

**M.A./ MSc.**

**GEOGRAPHY**

**Gg - 424 : Research Methodology  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Describe various methods of survey.

**Q2)** Describe data base creation for physical and cultural features.

**Q3)** Describe the elements considered for interpretation of aerial photography.

**Q4)** Explain bivariate and multivariate correlation analysis.

**Q5)** Discuss the use of GIS in spatial data analysis.

**Q6)** Discuss the significance of formulation of research problem and survey of literature in report writing.

**Q7)** Write note on any two:

- a) Dumpy level survey.
- b) Terrain cross profile.
- c) Questionnaire.





Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3162**

**[5031]-47**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg-430: Social and Cultural Geography  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Discuss various approaches to the study of social and cultural geography.

*Q2)* Explain the concepts of structuralism and radicalism.

*Q3)* Describe the processes of urbanization, modernization and globalization.

*Q4)* Describe the cultural regions of India.

*Q5)* Discuss the patterns of social wellbeing in India.

*Q6)* Explain the rural - urban contrasts in housing, health and education.

*Q7)* Write notes on any two:

- a) Impact of technology on human settlement.
- b) Deffusion of culture.
- c) Primary social groups in society.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3163**

**[5031]-48**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg-431: Computer Geography  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Discuss various applications of computer in human geography.

*Q2)* Give an account of anatomy of computers.

*Q3)* Give an account of functions of operating system.

*Q4)* Discuss applications of Corel DRAW in map making.

*Q5)* Discuss the importance of GIS in geographical studies.

*Q6)* Discuss the uses of MS-Excel in graphical presentation giving suitable examples.

*Q7)* Write notes on any two:

- a) Data analysis in MS-Excel.
- b) Significance of Auto CAD in map making.
- c) Uses of charts.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3164**

**[5031]-49**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg-432: Oceanography  
(2008 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Define oceanography and explain the contribution of oceanographers in the subject.

**Q2)** Explain origin of the ocean basins with reference to the theory of continental drift.

**Q3)** Explain the relation between oceanic ridges and rises with the volcanoes.

**Q4)** Discuss the tidal effects in coastal areas giving suitable examples.

**Q5)** Define 'Ocean waves' and explain the characteristics and properties of ocean waves.

**Q6)** Critically examine the dynamic theory of tides.

**Q7)** Write short notes on (any two):

- a) Atlantic ocean currents.
- b) Density of ocean water.
- c) Biogenous particles.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3165**

**[5031]-50**

**M.A/M.Sc.**

**GEOGRAPHY**

**Gg-433: Natural and Man-Made Hazards  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Define natural disasters and explain their types.

*Q2)* Examine the causes and effects of land slides.

*Q3)* Describe the effects of global warming.

*Q4)* Explain the causes and consequences of earthquakes.

*Q5)* Discuss the impact of large river projects in India.

*Q6)* Classify man-induced hazards and explain the factors contributing to them.

*Q7)* Write notes on any two of the following:

- a) Nuclear hazards.
- b) Pollution of rivers.
- c) Disaster preparedness.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3166**

**[5031] - 51**

**M.A. / M.Sc.**

**GEOGRAPHY**

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

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

*Q1)* Discuss the geostrategic importance of Europe.

*Q2)* Explain the problems and prospects of agriculture in Europe.

*Q3)* Discuss the globalisation and balance of trade in Europe.

*Q4)* Give an account of distribution of population of Europe.

*Q5)* Explain the problems of urbanization in Europe.

*Q6)* Explain the impact of the World Wars on Europe.

*Q7)* Write notes on Any Two:

- a) Characteristics of climate in Europe.
- b) Evolution of industrial regions in Europe.
- c) Development of tourism in Europe.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3167**

**[5031] - 52**

**M.A. / M.Sc.**

**GEOGRAPHY**

**Gg - 442 : Regional Geography of South East Asia  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Explain the major climatic types and their characteristics in South East Asia.

**Q2)** Discuss the problems and prospects of agriculture in South East Asia.

**Q3)** Write an essay on development of industrial activities in South East Asia.

**Q4)** Give a geographical account of the pattern of international trade of South East Asia.

**Q5)** What is urbanization? Explain the problems of Urbanization in South East Asia.

**Q6)** Explain the scope and development of tourism in South East Asia.

**Q7)** Write notes on any two:

- a) Geostrategic importance of South East Asia.
- b) Population as a resource of South East Asia.
- c) Mineral resources in South East Asia.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3168**

**[5031] - 53**

**M.A. / M.Sc.**

**GEOGRAPHY**

**Gg - 443 : Regional Geography of North America  
(2008 Pattern) (Semester - IV)**

*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.*

**Q1)** Explain the major climate types and their characteristics in North America.

**Q2)** Give an account of mineral and energy resources of North America.

**Q3)** Describe the agricultural regions in North America.

**Q4)** Explain the development of industrial activities in North America.

**Q5)** Describe the balance of trade and impact of globalization in North America.

**Q6)** Explain the scope of tourism. Describe tourist centres in North America.

**Q7)** Write short notes on any two:

- a) Geographical location and significance.
- b) Problems of Urbanization in North America.
- c) The relationship between U.S.A and Canada.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3169**

**[5031] - 54**

**M.A. / M.Sc.**

**GEOGRAPHY**

**Gg - 444 : Geography of Japan**

**(2008 Pattern) (Semester - IV)**

*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.*

**Q1)** Explain the major soil types and their distribution in Japan.

**Q2)** Give an account of Hydel power projects in Japan.

**Q3)** Discuss the problems and prospects of agricultural regions in Japan.

**Q4)** Explain the importance and technology of fishing Industry.

**Q5)** Explain the characteristics of population in Japan.

**Q6)** Discuss the role of national and international policies in the development of Japan.

**Q7)** Write short notes on any two:

- a) Plate tectonics and Location of Japan.
- b) Characteristics of west flowing rivers in Japan.
- c) Major industrial regions of Japan.





Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P3170**

**[5031] - 55**

**M.A. / M.Sc.**

**GEOGRAPHY**

**Gg - 445 : Geography Of India  
(2008 Pattern) (Semester - IV)**

*Time : 3 Hours]*

*[Max. Marks :80*

**Instructions:**

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

**Q1)** State the main physiographic regions and describe the plains in detail.

**Q2)** Give an account of forests in India.

**Q3)** Explain the weather conditions associated with various seasons.

**Q4)** Give an account of cotton and sugar crops in India.

**Q5)** Explain with examples “problems related to industrial development”.

**Q6)** Explain the growth and distribution of population in India.

**Q7)** Write note on any Two:

- a) Importance of peninsular location of India.
- b) Economic composition in India.
- c) Problems of North-East region of India.

