

Total No. of Questions : 7]

SEAT No. :

**P1532**

**[5128]-11**

[Total No. of Pages : 1

**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)** Discuss in detail the concepts of cyclic, graded and steady time scales.

**Q2)** Briefly mention the chief characteristics of the Wegner's theory of continental drift. What are its relative merits and demerits?

**Q3)** Give an account of different types of weathering.

**Q4)** Give an account of different erosional landforms produced by the rivers with suitable diagrams.

**Q5)** Describe the mechanics of erosion carried out by glaciers.

**Q6)** Describe different erosional landforms produced by the work of wind.

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

- a) Drainage basin.
- b) Mass movement.
- c) Slope decline.

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Total No. of Questions : 7]

SEAT No. :

**P1533**

**[5128]-12**

[Total No. of Pages : 1

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

**GEOGRAPHY**

**Gg - 102 : Principles of Climatology  
(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)** What are auroras? Elaborate ionosphere and explain vertical variations in the composition of atmosphere.

**Q2)** State the difference between heat and temperature, and explain the factors that control horizontal distribution of temperature over the earth's surface.

**Q3)** Discuss various factors affecting air pressure.

**Q4)** What is Jet stream? Explain its effects on the surface weather condition.

**Q5)** Describe various types of lapse rate and explain conditional instability.

**Q6)** Give an account of the source regions of air masses.

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

- a) Tropical Climatology.
- b) Albedo.
- c) Methods of weather forecasting.

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Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1534**

**[5128]-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 map stencils is allowed.*

*Q1)* Define 'Economic Geography' and describe recent trends in its study.

*Q2)* Describe the various types of hypothesis in economic geography.

*Q3)* What do you mean by a resource? Describe various types of natural resources.

*Q4)* Explain the economic factors of production.

*Q5)* Describe the Rostow's model of economic development.

*Q6)* Write a geographical essay on problems and prospects of international trade.

*Q7)* Write notes on any two:

- a) Characteristics of Homestead and village economy.
- b) External economics of scale.
- c) Natural factors of regional disparity.



Total No. of Questions : 7]

SEAT No. :

**P1535**

[5128]-14

[Total No. of Pages : 1

M.A/M.Sc.

**GEOGRAPHY**

**Gg- 104 : Principles of Settlement and Population 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 maps and diagrams wherever necessary. Use of Stencil is allowed.*

**Q1)** “Settlement Geography is highly dynamic in its contents and approach” justify the same with appropriate examples.

**Q2)** Given to understand, Malthus Theory is food resources nexus population growth. Demonstrate the same and according to you, in the present day context, is the theory to be accepted or rejected? Justify the same.

**Q3)** How do settlements agglomerate or disperse? What are the problems of dispersion and agglomerations?

**Q4)** How has demographic profile of India changed over the decades and what are the demographic advantages and disadvantages of the same?

**Q5)** What are the factors that affect the population distribution in Asia and give a synoptic view of population concentration of the same?

**Q6)** Distinguish between rural and urban settlements. What is the hierarchy of settlements and explain the functions of each of the settlements in the Indian context.

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

- a) Ricardo’s Model
- b) Methods of measuring dispersion
- c) Fertility and Mortality and factors affecting the same.



Total No. of Questions : 7]

SEAT No. :

**P1536**

**[5128]-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 are allowed.*
- 3) *The figures in the right hand side bracket indicate full marks.*

- Q1)** a) Write a note on null and alternative hypothesis. **[6]**  
b) Calculate kurtosis for the following data. The table shows the annual flood discharge (Q 000 m<sup>3</sup>/s) on the Ganga River at Hardwar (1885-1971). **[14]**

Class (Q 000 m <sup>3</sup> /s)	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20
Frequency	17	27	18	18	03	00	02	01	01

- Q2)** a) What are parametric and non-parametric tests? **[6]**  
b) The record of the earthquakes in the world shows that 2 very large earthquakes have occurred in 100 years (1901 - 2000.)If next 10 years are considered for prediction of earthquakes then what is the probability of **[14]**  
i) 1 very large earthquake?  
ii) 2 very large earthquakes?  
iii) 3 very large earthquakes?  
iv) 4 very large earthquakes?

- Q3)** a) Types of Geographical data. **[6]**  
b) Calculate 3 years moving average for the discharge (Q) in m<sup>3</sup>/s of Arkansas River. Plot the data and interpret the results. **[14]**

Year	1936	1937	1938	1939	1940	1941	1942
Q	6.29	6.30	6.26	6.80	5.72	5.81	7.42

Year	1943	1944	1945	1946	1947	1948	1949	1950
Q	6.94	6.26	5.81	6.26	5.64	6.77	6.72	6.55

**P.T.O.**

- Q4) a)** What are scales of measurements? [6]
- b) Calculate the Pearson product moment correlation coefficient ( $r$ ) between water surface distance from left bank in meter and velocity of water in m/s. Interpret the results. [14]

Distance	1	2	3	4	5	6	7	8
Velocity	1.2	1.31	1.50	1.69	1.82	1.90	1.99	2.0

- Q5) a)** Write meaning and properties of mean. [6]
- b) The following table gives the data of elevation in meter and average annual rainfall (AAR) in mm of southern Scotland. Obtain the linear regression equation. Plot the regression line and scatter diagram. [14]

Elevation (m)	240	430	420	470	300	150	520	460	300	410
AAR(mm)	1720	2320	2050	1870	1690	1250	2130	2090	1730	2040

- Q6)** Following table records the ages of heads of households obtained from a sample survey of 2 residential areas. Use student's 't' test to find whether there is significant difference between two samples. Test the hypothesis at 0.05 level of significance and comment. [20]

X	38	45	52	51	50	26	66	41	30	43
Y	49	62	65	50	44	46	39	23	56	58

- Q7)** Write notes on any two: [20]
- a) Central limit theorem.
- b) Bivariate correlation and regression.
- c) Binomial Probability Distribution.

x x x

Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1537**

**[5128]-22**

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

**GEOGRAPHY**

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

*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)** Discuss the peculiarities of tropical climate giving suitable examples.
- Q2)** Describe the characteristics of the deep weathering profiles in tropics.
- Q3)** Describe the properties of indurated laterites and its world distribution.
- Q4)** Explain the process of erosion and deposition in the tropical rivers.
- Q5)** Discuss the hill slopes and pediments in the tropics.
- Q6)** Describe the role of tectonics and climatic change in sea level of the tropics.
- Q7)** Write notes on **any two**:
- a) Climatic and Environmental factors.
  - b) Distribution of laterites in India.
  - c) Types of planation surfaces.







Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1538**

**[5128]-23**

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

**GEOGRAPHY**

**Gg - 211 : Synoptic Climatology  
(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)** Bring out the relative merits and demerits of the analytical and synoptic approaches in the study of weather phenomenon.

**Q2)** Give a detailed account of the different types of precipitation.

**Q3)** Describe the air masses of Asia and Europe.

**Q4)** What are hurricanes? Discuss the condition under which they are formed. Mention the region of their occurrence.

**Q5)** What are tornadoes? How are they formed? Write briefly about the system of prediction of tornadoes.

**Q6)** Describe the different methods of weather forecasting.

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

- a) Display system of weather data by IMD.
- b) Occluded Front-Definition and weather pattern.
- c) Rossby waves.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1539**

**[5128]-24**

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

**GEOGRAPHY**

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

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instructions to the candidates:*

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

**Q1)** Describe nature of agricultural geography and explain its significance.

**Q2)** 'Agriculture is a basic and significant activity in Indian economy'. Explain with suitable examples.

**Q3)** Describe the various economic and technological factors influencing agricultural pattern.

**Q4)** Distinguish between intensive and extensive types of agriculture.

**Q5)** Discuss various characteristics, problems and prospects of agriculture in semi-arid regions.

**Q6)** Describe general land use in India giving suitable examples.

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

- a) Green Revolution.
- b) Impact of droughts on agriculture.
- c) Methods of crop combination.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1540**

**[5128]-25**

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

**GEOGRAPHY**

**Gg - 213 : Population 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 population geography and discuss approaches to study the population geography.

**Q2)** Give a detailed account of Optimum Population Theory.

**Q3)** Explain the factors affecting the distribution of world population.

**Q4)** Write a geographical essay on 'Mortality trends in developed countries'.

**Q5)** Define migration and describe its types.

**Q6)** Discuss in detail population policy of India.

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

- a) Population growth and its spatial variation.
- b) Urban and rural fertility levels.
- c) Foetal and infant Mortality.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1541**

**[5128]-26**

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

**GEOGRAPHY**

**Gg - 214 : Geoinformatics**

**(2008 Pattern) (Semester - II) (Paper - I)**

*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.*

**Q1)** Discuss in detail potential of GIS and elaborate the tasks of GIS with suitable examples.

**Q2)** Discuss in detail spatial and non spatial database in GIS.

**Q3)** What are different geometric primitives? Differentiate between raster and vector data models.

**Q4)** Give an account of topological building in GIS.

**Q5)** What is SQL? Discuss in detail application of SQL in attribute query.

**Q6)** Define the term map algebra and explain with suitable examples grid operations in GIS.

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

- a) Objectives of GIS.
- b) Advantages of DBMS.
- c) Operations for set theory.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1542**

**[5128]-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)** Explain in detail the Horton's law of drainage composition.

**Q2)** Distinguish between the characteristics of steady and unsteady flows.

**Q3)** Discuss in detail the relation of discharge with width, depth and velocity of a Channel.

**Q4)** Discuss the types of sediment load.

**Q5)** Give an account of the relation between river discharge and the gradient of bed and bank material.

**Q6)** Define river terraces. Discuss in detail various types and combinations of river terraces.

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

- a) Capacity and competence
- b) Long profile
- c) Gorges, canyon and waterfalls.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1543**

**[5128]-28**

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

**GEOGRAPHY**

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

*Time : 3 Hours]*

*[Max. Marks :80*

*Instructions to the candidates:*

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

**Q1)** Discuss the environmental & economic importance of monsoon climatology.

**Q2)** Give an account of monsoon of South Asia.

**Q3)** Discuss driving mechanism of monsoon with reference to effects of rotation & moisture.

**Q4)** Give an account of surface winds & upper winds.

**Q5)** Give an account of semi permanent system of monsoon.

**Q6)** Discuss intra-seasonal active & break monsoon situations of monsoon rainfall.

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

- a) Parametric & multiple power regression model.
- b) Historical perspective of monsoon forecasting
- c) Summer monsoon.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1544**

**[5128]-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 five questions.*
- 2) *All questions carry equal marks.*
- 3) *Draw neat diagrams wherever necessary.*

**Q1)** Discuss the process centralization and decentralization in industrial location.

**Q2)** Critically evaluate the least cost location theory of Alfred Weber.

**Q3)** Describe the distributional pattern and problems of cotton textile industry in India.

**Q4)** Describe the distribution, locational factors and problems of industrial region of Anglo-America.

**Q5)** Explain the nature of software industry in India.

**Q6)** Discuss the pattern of regional development of industries in India.

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

- a) Development of Loach's system of hexagonal market areas
- b) Chhotanagpur plateau industrial region
- c) Political basis of industrialization



Total No. of Questions : 7]

SEAT No. :

**P1545**

**[5128]-30**

[Total No. of Pages : 1

**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)** Describe how sequence of occupance from neolithic to modern period has influenced on rural settlements.

**Q2)** Explain the terms site, situation and location of settlements and briefly describe the factors affecting site of settlements.

**Q3)** Explain functional analysis of rural service centers and trading centers with suitable examples.

**Q4)** Discuss socio-cultural morphogenesis of rural settlements with suitable examples.

**Q5)** Describe the causes and consequences of rural-urban migration.

**Q6)** Discuss land use and transport as the vital aspects of rural development planning.

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

- a) Ricardo.
- b) Dispersion of rural settlements.
- c) Building material.





Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1546**

**[5128]-30A**

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

**GEOGRAPHY**

**Gg-224:Geo-informatics-II  
(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)** Differentiate between active and passive remote sensing and explain the application of these two main types in the study of earth surface features.

**Q2)** Describe the interaction of EMR (Electromagnetic radiation) with respect to atmosphere and earth surface.

**Q3)** Give an account of 'Photogrammetry'.

**Q4)** Describe characteristics of SPOT, LISS and OCM as major satellite sensors.

**Q5)** Give a comparative account of 'Visual interpretation of satellite images' and an 'aerial photograph'.

**Q6)** Describe components and type of GPS receivers.

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

- a) IRS Programmes.
- b) Resolution.
- c) Components of an aerial camera.



Total No. of Questions : 7]

SEAT No. :

**P1547**

**[5128]-31**

[Total No. of Pages : 1

**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) *Draw figures/maps wherever necessary.*
- 4) *Use of map stencil is allowed.*

**Q1)** Give an account of contributions by Greek school of thought to the development of geography.

**Q2)** Give an account of contributions of French geographers to the development of geography.

**Q3)** What is dualism in geography? Discuss the determinism and possibilism in geography.

**Q4)** What is a system? Discuss the systems approach in geography.

**Q5)** Write a geographical essay on quantification and application of statistical techniques in geography.

**Q6)** What is applied geography? Explain the need and significance of applied geography.

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

- a) Hypothesis in geography.
- b) Computer based cartography.
- c) Application of geographical concepts.

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Total No. of Questions : 7]

SEAT No. :

**P1548**

**[5128]-32**

[Total No. of Pages : 1

**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)** Define wave and describe various parameters of waves.

**Q2)** Discuss the equilibrium theory of tides.

**Q3)** Give a brief review of Pleistocene sea levels, glacial eustasy and staircase theory.

**Q4)** Write an explanatory note on coastal sediments.

**Q5)** Explain morphodynamics of deltas and describe its morphology in detail.

**Q6)** Give an account of wave-dominated coasts giving suitable examples.

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

- a) Morphological coastal classification.
- b) Corals and coral reefs.
- c) Salt intrusion and subsidence of coastal aquifers.





Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1549**

**[5128]-33**

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

**GEOGRAPHY**

**Gg - 311 : Applied Climatology**

**(2008 Pattern) (Semester - III) (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)** Explain different forms of precipitation. Describe instruments used to measure temperature.

**Q2)** Explain micro-meteorological changes and behavior of pests and diseases due to it.

**Q3)** Explain nature of global environmental change.

**Q4)** Mention significant climate variables and give their impact on industrial and commercial activities.

**Q5)** Explain problems of urban air pollution and write a note on Urban Heat Island

**Q6)** Explain significant climate variables and give their impact on industrial and commercial activities.

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

- a) Heating degree-days.
- b) Effect of Climate on air transport.
- c) Astronomical theory of climate change.

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Total No. of Questions : 7]

SEAT No. :

**P1550**

**[5128]-34**

[Total No. of Pages : 1

**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 map stencils is allowed.*

**Q1)** Describe various approaches to the study of trade and transport geography.

**Q2)** Describe the factors associated with the development of railways and pipelines.

**Q3)** Describe physical factors associated with the growth of seaports.

**Q4)** Discuss the problems of growth of urban transportation in developing countries.

**Q5)** Explain the concept of trade and discuss the significance of trade.

**Q6)** Trace out the history and development of international trade.

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

- a) Hinterland.
- b) Neo-classical trade theory.
- c) Nodes and routes.

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Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1551**

**[5128]-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) *Draw maps/diagrams wherever necessary.*
- 4) *Use of map stencil is allowed.*

**Q1)** What is urban geography? Explain the scope and significance of urban geography.

**Q2)** What do you mean by urban morphology? Describe the Homer Hoyet Model of urban structure.

**Q3)** Explain H.J. Nelson's method of functional classification of towns and cities.

**Q4)** Write a geographical essay on satellite towns, conurbation and megalopolis.

**Q5)** Explain urban hierarchy with reference to central Place Theory.

**Q6)** Explain the problems of civic amenities in towns and cities.

**Q7)** Write notes on Any Two of the following:

- a) Urbanisation curve.
- b) Urban population explosion in developing countries.
- c) Master plan of towns.

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Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1552**

**[5128]-36**

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

**GEOGRAPHY**

**Gg- 314 : Geo-Informatics  
(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 and calculator is allowed.*

**Q1)** Give a brief account of spatial interpolation with reference to Global and local methods of interpolation.

**Q2)** Give an account of single layer and multiple layer operations in spatial analysis.

**Q3)** Explain major sources of distortions in image acquisition.

**Q4)** Describe the significance of NDVI and GNDVI.

**Q5)** Explain supervised and unsupervised classification of image in Digital Image Processing.

**Q6)** Discuss confusion matrix and producers accuracy in Digital image processing.

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

- a) GCP tools.
- b) Point pattern analysis.
- c) TVI.







Total No. of Questions :7]

SEAT No. :

**P1553**

[Total No. of Pages :3

[5128] - 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) Explain with suitable examples, major types of matrices. **[6]**

b) Find the product of A \* B **[6]**

$$A = \begin{pmatrix} 12 & 121 & 325 \\ 101 & 359 & 650 \\ 87 & 99 & 220 \end{pmatrix} \quad B = \begin{pmatrix} 2 & 5 & 6 \\ 12 & 22 & 15 \\ 8 & 10 & 45 \end{pmatrix}$$

c) Find the unknowns in the following simultaneous equations using the matrix solution **[8]**

$$3a + 4b + 5c = 18$$

$$2a - b + 8c = 13$$

$$5a - 2b + 7c = 20$$

**Q2)** Following table depicts the results of a biodiversity index survey. Fit an appropriate bivariate equation to the data given and interpret the results. **[20]**

Biodiversity Index (X)	6	5	9	2	3	7	8	6	1	5	3
Distance from southern Boundary (Y)	28	11	20	3	7	16	25	13	37	31	35

**P.T.O.**

**Q3)** Compute multiple correlation and regression from the data given below and interpret the results: [20]

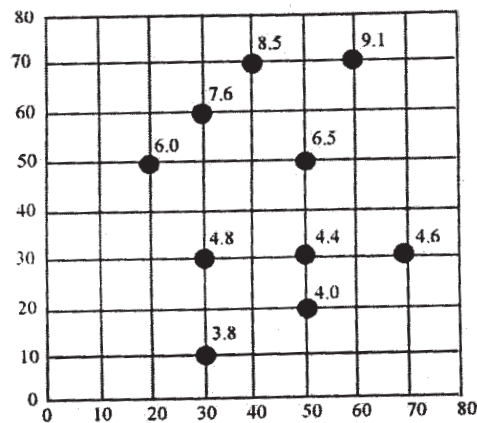
Means:  $\bar{Y} = 2.6824$ ;  $\bar{X}_1 = 22.1653$ ;  $\bar{X}_2 = 7.2371$ ;  $n = 17$

Variances:  $\sigma^2 Y = 4.9673$ ;  $\sigma^2 X_1 = 156.6456$ ;  $\sigma^2 X_2 = 20.94153$ ;

Covariances:  $\text{Cov} YX_1 = 10.5326$ ;  $\text{Cov} YX_2 = 23.3211$ ;  $\text{Cov} X_1 X_2 = 5.0988$ ;

$Y$  = Criminal Cases on trial (in lakh),  $X_1$  = Poverty Ratio,  $X_2$  = Unemployment Rate (Per cent of labour force)

**Q4)** Following map depicts the depth (in metres) of sandstone layer beneath the surface at different locations. Fit an appropriate trend surface equation, compute explained variance and interpret the results. [20]



**Q5)** Find the first two components from the given correlation matrix and interpret the results. [20]

	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
$X_1$		0.76	0.19	0.35	0.50
$X_2$	0.76	1.0000	0.16	-0.40	0.82
$X_3$	0.19	0.16	1.0000	0.47	0.19
$X_4$	0.35	-0.40	0.47	1.0000	0.64
$X_5$	0.50	0.82	0.19	0.64	1.0000

**Q6)** Extract first factor of loadings and calculate Eigen value and explained variance for the following data. Interpret the results. **[20]**

	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
$X_1$		0.0748	0.2018	0.5293	0.4375
$X_2$	0.0748	1.0000	0.1472	0.4529	-0.2146
$X_3$	0.2018	0.1472	1.0000	0.6666	0.6409
$X_4$	0.5293	0.4529	0.6666	1.0000	0.4394
$X_5$	0.4375	-0.2146	0.6409	0.4394	1.0000

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

- a) Curvilinear bivariate relationships.
- b) Step wise regression analysis.
- c) Applications of PCA in remote sensing.

*EEE*

Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1554**

**[5128]-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)** Define political geography and Describe nature, scope of political geography.

**Q2)** Explain the Unified Field Theory to formation of state.

**Q3)** Examine the global strategic views of Mahan.

**Q4)** Define the boundary and describe the morphological classification of international boundaries.

**Q5)** Classify the resources and explain the relationship between resources and national strategy.

**Q6)** Describe the interstate water and language disputes.

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

- a) Genetic classification of boundaries.
- b) Heartland.
- c) Problems of Border States in India.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 01

**P1555**

**[5128]-39**

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

**GEOGRAPHY**

**Gg-322: Soil Geography  
(2013 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)** Explain the importance of soils in agriculture and forestry.

**Q2)** Explain the physical properties of soil in detail.

**Q3)** Describe the development of soil profile with reference to deposition of iron and aluminium.

**Q4)** Define weathering and elaborate the process of chemical weathering and soils.

**Q5)** Give an account of land suitability classification.

**Q6)** Discuss the problem of soil salinization leading to its degradation.

**Q7)** Write notes on any two

- a) Hydrology and soils
- b) Physical weathering
- c) Topography, parent material and soil



Total No. of Questions : 7]

SEAT No. :

**P1556**

**[5128]-41**

[Total No. of Pages : 1

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

**GEOGRAPHY**

**Gg - 401 : Natural 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)** Elaborate the concepts and models of natural resource management.

**Q2)** Elaborate the concept of resource appraisal and sustainable management.

**Q3)** Bring out the importance of sustainable management in developing countries.

**Q4)** Describe the distribution and developmental policy of population resources of India.

**Q5)** Describe how the physical and cultural resources are subdivided according to various bases.

**Q6)** Give the distribution and developmental policy of Industries in India.

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

- a) Multiple use of resources.
- b) Resource evaluation and geography.
- c) Conservation of mineral resources.

**x x x**

Total No. of Questions : 7]

SEAT No. :

**P1557**

**[5128]-42**

[Total No. of Pages : 1

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

**GEOGRAPHY**

**Gg - 420 : Regional Planning and Development  
(Semester - IV) (Old Course) (2008 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 80*

*Instructions to the candidates:*

- 1) *Attempt any four questions.*
- 2) *All questions carry equal marks.*
- 3) *Use maps and diagrams wherever necessary. Use of Stencil is allowed.*

**Q1)** What are the different types of regional planning? Which type of planning is best suited for a country, like India?

**Q2)** Discuss the implementation of regional planning for any More Developed Countries of the world How is it different from the regional planning programmes of India.

**Q3)** Discuss the merits of multilevel planning giving suitable examples.

**Q4)** What do you mean by Metropolitan region? Discuss the metropolitan plan for any region that you have studies.

**Q5)** Give the objectives of five year planning in India Review these plants in the context of demographic and social development. What are the successes and failures of the same?

**Q6)** What are the diagnostic tools used in identifying a problematic region? Identify the probable problems of river basin and formulate a plan for the same.

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

- a) Formal and Functional Region.
- b) Meso and Macro region.
- c) Concentration versus dispersal planning.





Total No. of Questions : 7]

SEAT No. :

**P1558**

**[5128]-43**

[Total No. of Pages : 1

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

**GEOGRAPHY**

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

*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)** Discuss water as the most important and renewable resource.

**Q2)** Discuss methods of estimation of water supply and its utilization.

**Q3)** Explain soil-water and crop relationship.

**Q4)** Write a regionwise account of industrial effluents water pollution and water treatment.

**Q5)** Outline various problems associated with water resources. Discuss the areas of water abundance and scarcity with reference to India.

**Q6)** Give an account of conservation and planning for the development of water resources.

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

- a) Hydrological cycle.
- b) Agricultural cropping pattern.
- c) Water balance and drought.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1559**

**[5128]-44**

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

**GEOGRAPHY**

**Gg - 422 : Biogeography  
(Semester - IV) (2008 Pattern)**

*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)** Discuss basic processes in terms of evolution and adaptation, speciation and extinction.

**Q2)** Explain limits of distribution and patterns of rarity.

**Q3)** Give an account of physical limitation of life.

**Q4)** Discuss island as an area of isolation in terms of major problems.

**Q5)** Describe distribution patterns of plants and animals with reference to Gondwana land and Laurasia.

**Q6)** Give a comparative account of temperate broadleaf and tropical broadleaf biomes with suitable examples.

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

- a) Tropical savanna biome.
- b) Dispersal and colonization.
- c) Eco-geographic trends.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1560**

**[5128]-45**

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

**GEOGRAPHY**

**Gg - 423 : Geography and Ecosystem  
(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)** Write a geographical essay on spatial and temporal dimensions of ecosystem.

**Q2)** Explain the nitrogen cycle in an ecosystem with diagram.

**Q3)** Describe the forest ecosystems.

**Q4)** What is carrying capacity? Discuss various issues related with population growth and carrying capacity of the earth.

**Q5)** Discuss the environmental and ecological changes due to big dams with reference to 'Sardar Sarovar' project.

**Q6)** Bring out the salient features of the environmental protection Act in India.

**Q7)** Write notes on Any Two of the following:

- a) Habitat and ecological niche.
- b) Food chain and trophic levels.
- c) Eco-tourism.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1561**

**[5128]-46**

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

**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)** What is geodetic and plane survey? Describe the measurement of the base line in plane surveying.

**Q2)** Describe the arrangement of sheets on the map of India.

**Q3)** Discuss the use and types of aerial photographs.

**Q4)** Explain the parametric and non-parametric tests.

**Q5)** Describe the use and applications of GIS in geography.

**Q6)** Describe the components of field survey.

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

- a) Traverse survey.
- b) Satellite images.
- c) Survey of Literature.



Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P1562**

[5128] - 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 stencil is allowed.*

**Q1)** Discuss the different methodological aspects of social and cultural geography.

**Q2)** Describe the origin and diffusion culture through the ages.

**Q3)** Critically examine Globalization an Sanskritization.

**Q4)** Discuss the role of level of education and economic activities in the formation of cultural regions.

**Q5)** Comment upon the nature of social areas in urban settlements.

**Q6)** Discuss the impact of technology on human settlements.

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

- a) Social and public space.
- b) Cultural Diversity.
- c) Diffusion of culture.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P1563**

[5128] - 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 stencil is allowed.*

**Q1)** Discuss the application of computer techniques in Geography.

**Q2)** Give an account of introduction to windows and define the terms ICON, menus, files and folder.

**Q3)** Mention various computer cartographic techniques and its relevance in geographical studies.

**Q4)** State the significance of image enhancement and resampling.

**Q5)** Discuss the application of GIS in computer cartography.

**Q6)** Elaborate the use of MS Excel in geographical data presentation.

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

- a) Computer software.
- b) Corel DRAW in mapmaking.
- c) Digitization.

*EEE*

Total No. of Questions :7]

SEAT No. :

[Total No. of Pages :1

**P1564**

[5128] - 49

M.A/M.Sc.

**GEOGRAPHY**

**Gg-432: Oceanography**

**(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 stencil is allowed.*

**Q1)** Define the term 'Oceanography' and discuss in detail the nature of modern trends in oceanography.

**Q2)** Explain the theory of Sea Floor Spreading in the context with global plate tectonics.

**Q3)** Define the term salinity. Explain the origin and composition of sea salts.

**Q4)** Describe the ocean currents generated in Indian and Pacific Ocean.

**Q5)** Define the term sea waves and explain the characteristics and properties of sea waves.

**Q6)** Discuss the types of marine sediments on the basis of their distribution on the ocean floor.

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

- a) Density of sea water.
- b) Oceanic trenches.
- c) Wave height, length and period.

*EEE*

Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1565**

**[5128]-50**

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

**GEOGRAPHY**

**Gg-433: Natural and Manmade Hazards  
(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 the probability of occurrence and effects of dust storms and lightning.

**Q2)** Discuss the causes and areas affected by earthquakes.

**Q3)** Describe the various types of manmade hazards.

**Q4)** Discuss the effects of over exploitations of resources on environment.

**Q5)** Discuss the causes and effects of forest fires.

**Q6)** Describe the causes, effects and affected areas of hydel power stations.

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

- a) Effects of desertification
- b) Preparedness for disaster
- c) Types of natural hazards





Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1566**

**[5128]-51**

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

**GEOGRAPHY**

**Gg - 441 : Regional Geography of Meso Region-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)** Explain the major soil types and their distribution in Europe.

**Q2)** Give an account of water and land resources in Europe.

**Q3)** Describe the balance of trade and impact of globalization in Europe.

**Q4)** Describe the Population resources in Europe.

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

**Q6)** Give an account of industrial revolution in Europe.

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

- a) Geological structure of Europe.
- b) Development of tourism in Europe.
- c) Problems of industrialization in Europe.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1567**

**[5128]-52**

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

**GEOGRAPHY**

**Gg - 442 : Regional Geography of a Meso Region-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)** What do you mean by geostrategic importance? Comment on the geostrategic importance of South-East Asia.

**Q2)** Mention the mineral resources of South East Asia and discuss their status of utilisation and impact on economy of the region.

**Q3)** Describe the industrial scenario of South East Asia.

**Q4)** Give an account of the transportation network of South East Asia.

**Q5)** Give an account of the occupational composition of the population of South East Asia.

**Q6)** What is a megalopolis? Describe the importance of the different megalopolis of South East Asia.

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

- a) Relief of South East Asia.
- b) Problems of Industrialisation in South East Asia.
- c) Plantation agriculture in South East Asia.



Total No. of Questions : 7]

SEAT No. :

**P1568**

**[5128]-53**

[Total No. of Pages : 1

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

**GEOGRAPHY**

**Gg - 443 : Regional Geography of Meso Region-North America  
(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)** Mention the types and explain the distribution of vegetation in North America.

**Q2)** Describe the salient features of Agriculture in North America.

**Q3)** Discuss development of industrial activities of North America.

**Q4)** Describe globalization and trade in North America.

**Q5)** Give an account of growth and distribution of population in North America.

**Q6)** Write a geographical essay on 'scope of tourism in North America'.

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

- a) Geostrategic importance of North America.
- b) U.S.A's membership of economic international organization.
- c) Growth of Settlement.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1569**

**[5128]-54**

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

**GEOGRAPHY**

**Gg - 444 : Geography of Japan  
(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 the geographical characteristics of Japan in relation of plate tectonics.

**Q2)** Describe the important river systems of Japan.

**Q3)** What are the major mineral resources of Japan? Give a brief account of their distribution.

**Q4)** Discuss in detail the problems of agriculture in Japan?

**Q5)** Give an account of the electronic industries of Japan.

**Q6)** Discuss the characteristics of population in Japan.

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

- a) Railway network of Japan.
- b) Religion, language and literacy patterns of Japan.
- c) Economic and cultural relation of Japan with India.



Total No. of Questions : 7]

SEAT No. :

[Total No. of Pages : 1

**P1570**

**[5128]-55**

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

**GEOGRAPHY**

**Gg - 445 : Geography of India  
(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)** Divide India in main physiographic regions and give a detailed description of the peninsular plateau.

**Q2)** Describe the major climatic regions of India.

**Q3)** Give an account of deforestation and measures for the conservation of forest in India.

**Q4)** Give the distribution of coal, petroleum and natural gas in India.

**Q5)** Explain problems related to industrial development in India.

**Q6)** Describe the population composition of India.

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

- a) Geological structure of India.
- b) Measures of Soil conservation.
- c) Green revolution in India.

