[3626] – 1

M.Sc. (Sem.–I) Examination, 2009
GEOGRAPHY
GP : 101 : Principles of Geomorphology
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

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

1. Give an account of concept of uniformitarianism and Catastrophism.

2. Give an elaborative account of continental drift theory.

3. What is climatic geomorphology ? Give an account of denudational processes.

4. List the different types of erosional and depositional land forms formed by river and explain in detail the erosional landforms.

5. What is glacier ? Write an explanatory note on mechanism of erosion, transportation and deposition of glaciers.

6. What is slope profile ? Explain the theory of slope decline in detail.

7. Write notes on any two **:**
   a) Paleomagnetism
   b) Concept of pediplanation
   c) Erosional landforms by work of waves.

[3626] – 101

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg – 101 : Principles of Geomorphology
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define geomorphology and write a brief history of geomorphology.
2. Give an account of plate tectonic theory.
3. What do you understand by the term mass movement ? Explain different types of mass movement processes.
4. What is glacier ? Describe the erosional landforms of glaciers.
5. Discuss the coastal processes and associated landforms.
6. Define slope segments and discuss the slope replacement theory of slope evolution.
7. Write notes on **any two** :
   a) Uniformitarianism
   b) Depositional landforms of river
   c) Concept of pediplanation.

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[3626] – 102

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg-102 : Principles of Climatology (2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. What is Climatology ? Explain the nature and scope of Climatology.

2. Describe the structure of the earth's atmosphere with a diagram.

3. Define temperature. Discuss various factors controlling temperature over the earth's surface.

4. What is the relationship between air pressure and wind ? Describe the factors affecting wind systems.

5. What are various models of general circulation of the atmosphere ? Describe tri-cellular model of the atmosphere.

6. What is lapse rate ? Explain environmental, normal, dry adiabatic and wet adiabatic lapse rate with suitable diagrams.

7. Write notes **any two** :
   i) Air masses and fronts
   ii) Weather forecasting
   iii) Electromagnetic spectrum.

[3626] – 103

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg – 103 : Principles of Economic Geography
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define economic geography and explain its nature and scope.
2. Critically examine Weber's model.
3. Explain the significance of labour and capital in different economic activities.
4. Describe various measures of economic development with suitable examples.
5. Explain various factors influencing the international trade.
6. Describe natural and cultural factors influencing economic development in India.
7. Write notes on **any two** :
   a) Testing of hypotheses
   b) Homestead and tribal economy
   c) Von Thunen's model.

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[3626] – 104

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg-104 : Principles of Settlement and Population Geography
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Give an account of evolution of settlement geography.

2. Describe the effects of technology on shelter and pattern of settlement from neolithic to modern period.

3. Discuss the economic and social factors affecting nucleation of settlements.

4. Explain the concept of urbanization with regard to industrialization.

5. Critically examine the Population Growth Theory of Thomas R. Malthus.

6. Describe the age and education aspects of population as a resource.

7. Write notes on **any two** :
   a) Regional approach.
   b) Impact of physical factors on growth of settlement.
   c) Threshold and hierarchy.

[3626] – 2

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg-102 : Principles of Climatology (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. What is Climatology ? Explain the nature and scope of Climatology.

2. Describe the structure of the Earth's atmosphere with a diagram.

3. Define temperature. Discuss various factors controlling temperature on the Earth's surface.

4. What is the relationship between air pressure and wind ? Describe the factors affecting wind systems.

5. What are various models of general circulation of the atmosphere ? Describe tri-cellular model of the atmospheric circulation.

6. What is lapse rate ? Explain environmental normal, dry adiabatic and wet adiabatic lapse rate with suitable diagrams.

7. Write notes on **any two** :
   i) Air masses and fronts
   ii) Weather forecasting
   iii) Electromagnetic spectrum.

[3626] – 201

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 201 : Quantitative Techniques in Geography
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

N.B. *: 1) Attempt* ***any four*** *questions.*
2) Use of calculator and statistical table are ***allowed.***
3) The figures in the ***right*** *hand side bracket indicate* ***full*** *marks.*

1. a) Write a note on measurement of scales. **(6)**

   b) The following table gives the distribution of salaries of workers in a small scale industry. Claculate median and mean and comment on the values obtained.

Sr. No.	1	2	3	4	5	6
Salary in Rs.	1000 to 1500	1500 to 2000	2000 to 2500	2500 to 3000	3000 to 3500	3500 to 4000
No. of workers	10	18	25	35	48	62

(14)

2. a) Write a note on standard error estimates. **(6)**

   b) Find skewness and kurtosis for the following data and interpret the values.

Sr. No.	1	2	3	4	5	6	7
Height of sand Dunes (in m.)	0–1	1–2	2–3	3–4	4–5	5–6	6–7
No. of Dunes	12	15	6	8	4	3	5

(14)

3. a) State the properties of normal distribution curve with example. **(6)**

   b) Survey of 250 rural settlements in a region showed that, 65 settlements are in the urban fringe zone of a mega city. If a sample of 20 villages are selected randomly, find the probability that,
   1) More than 9 will be a fringe settlement
   2) 15 will not be in a fringe
   3) No settlement will be a fringe settlement
   4) All will be fringe settlements. **(14)**

P.T.O.

4. a) Explain with examples the application of least square method for the analysis of time series. **(6)**

   b) Find 3 and 5 year moving averages for the following set of data. Plot the data on a suitable graph paper and write the comment.

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rainfall (in cm)	50	48	51	49	42	74	61	68	37	32	47	60	51	54	50

(14)

5. Obtain the regression equation for the following data. Calculate explained variance and residuals from regression equation and write the comment on it.

   X : Distance of places from city (in km)

   Y : % Net sown area

Sr. No.	1	2	3	4	5	6	7	8	9
X	1.6	2.5	3.9	2.6	3.5	2.9	7.1	15.2	20.1
Y	12	14	15	14	18	16	26	34	55

(20)

6. Test the hypothesis at 0.05 and 0.01 significance level that, there is no significant difference in sample given below. Use appropriate test for the following data showing clay content (in grams). **(20)**

S_1	S_2	S_3	S_4	S_5
5	6	9	2	–
9	8	7	6	7
2	5	–	8	6
4	–	–	3	2

7. Write notes on **any two** : **(20)**

   a) Nature of geographical data

   b) Levels of significance

   c) Parametric and non parametric tests.

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[3626] – 202

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg-210 : Tropical Geomorphology
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define tropics and explain the classification of tropics suggested by different scholars.
2. Discuss the factors of weathering in the humid tropical environment.
3. What is laterite ? What are the different types of laterites ?
4. Define mechanical denudation and explain in detail the process of mechanical denudation.
5. Describe the nature and relief characteristics of tropical terrain.
6. Define the tropical planation and explain in detail the process and formation of planation surfaces.
7. Write notes on **any two** :
   a) Effect of vegetation on geomorphic process
   b) Theories of origin of iron in laterites
   c) Slope wash.

[3626] – 203

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY (2008 Pattern)
Gg-211 : Synoptic Climatology

Time : 3 Hours Max. Marks : 80

N.B. : *i) Attempt **any four** questions.*
*ii) **All** questions carry **equal** marks.*
*iii) **Use** of map stencil is **allowed**.*

1. What is meant by synoptic climatology ? Explain its nature and scope.

2. Discuss the procedures of observing, collecting, reporting and displaying systems of weather data by the meteorological services in India.

3. Explain in detail the formation and structure of the tropical cyclones.

4. Explain the process of formation of Hurricanes in a weather system.

5. Give a comparative account of air masses of North America and Asia.

6. Give a brief account of extra-topical cyclones.

7. Write notes on **any two** :
   a) Formation of cloud.
   b) Methods of forecasting.
   c) Aviation and weather forecasting.

[3626] – 204

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg.212 : Agricultural Geography (2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define Agricultural Geography and give an account of the approaches to the study of agricultural Geography.
2. Describe the importance of agriculture in the Indian economy.
3. Discuss the importance of technological factors in agriculture.
4. Write an essay on the salient features of plantation agriculture.
5. Describe the role of irrigation and dry farming in semi-arid and arid regions.
6. Give an account of regional specialization of agriculture in India.
7. Write notes on **any two** :
   a) Green Revolution
   b) Land classification in India
   c) Weaver and Thomas method of crop combination.

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[3626] – 205

M.Sc. (Sem. – II) Examination, 2009
GEOGRAPHY (2008 Pattern)
Gg-213 : Population Geography

Time : 3 Hours Max. Marks : 80

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

1. Define population geography. Describe the approaches to the study of population geography.

2. Give an account of spatio-temporal variations in world population growth.

3. Explain the applicability of Demographic Transition Model with reference to population growth of India.

4. Discuss the factors related with high fertility in the past and causes for their decline in recent times.

5. Discuss the factors influencing mortality levels and trends in developed countries.

6. 'Literacy and occupation composition of population play an important role in the development'. Discuss.

7. Write notes (**any two**) :

   a) Effects of demographic factors on population distribution.

   b) Laws of migration.

   c) Use of population projection in agricultural development.

[3626] – 206

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 214 : Geoinformatics – I
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Describe the basic analytical capabilities of a GIS.
2. Describe with suitable examples spatial, spectral, functional and logical relationship in GIS.
3. Give an account of Raster and Vector data models. Describe with examples the relative advantages and disadvantages of raster and vector data models.
4. What is spatial analysis ? Give examples and explain the types of spatial analysis.
5. Explain the process of topology building in GIS.
6. What is 'Structured Query Language' (SQL) ? Give an example to demonstrate the application of SQL.
7. Write notes on **any two** :
   a) Concept of space
   b) Buffer Analysis
   c) Map algebra.

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[3626] – 207

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 220 : Fluvial Geomorphology
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the Glock's model of drainage network development.

2. Distinguish between steady and unsteady flows and explain the shear stress and stream power.

3. How do you distinguish between laminar flow and turbulent flow ? Explain regimes of flow.

4. Elaborate at a station hydraulic geometry with respect to width, depth, velocity and gradient of channel.

5. Elaborate the concept of 'Grade'.

6. Explain the types of fluvial erosion and elaborate different erosive processes.

7. Write notes on **any two :**
   a) Capacity and competence of a river
   b) Modes of sediment transport
   c) River metamorphosis.

[3626] – 208

M.Sc. (Semester – II) Examination, 2009

GEOGRAPHY

Gg-221 : Monsoon Climatology

(2008 Pattern)

Time : 3 Hours Max. Marks : 80

1. Describe the aerological concept of origin of monsoon.
2. Explain in brief the various theories regarding Indian monsoon.
3. Describe effects of rotation and moisture as driving mechanism in monsoon.
4. Explain the mid-troposphere cyclones.
5. Explain the importance of Eurasian show-cover in teleconnenction.
6. Describe regional conditions and ENSO indicators in forecasting.
7. Write notes on **any two** :
   a) On-set and withdrawal of monsoon.
   b) Easterly Jet.
   c) Economic importance of monsoon.

B/II/09/100

[3626] – 209

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY (2008 Pattern)
Gg-222 : Industrial Geography

Time : 3 Hours Max. Marks : 80

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

1. Explain with examples, how various factors affecting the location of Industries.

2. Critically examine Weber's model of Industrial Location.

3. Give a brief account of the distribution and changing pattern of Automobile Industries in the World.

4. Explain in detail the distribution, problems and prospects of industrial regions of Western Europe.

5. Discuss in detail the nature of Industrial Regions in India.

6. Discuss the role of software industries in the economic development of India.

7. Write notes on **any two** :
   a) Nature of Industrial Geography.
   b) Geographical and Political factors affecting on Industrial Location.
   c) Industrial linkages.

[3626] – 21

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg 201 : Quantitative Techniques in Geography
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

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

1. a) Differentiate between : **6**

   i) Grouped and ungrouped data.

   ii) Interval and ratio scales.

   b) The following table gives the lifetime in hours of T.V. tubes of a certain make. Find the mean and median of T.V. tubes. **14**

Life time (Hours)	200 to 300	300 to 400	400 to 500	500 to 600	600 to 700
No. of tubes	16	40	56	78	71

Life time (Hours)	700 to 800	800 to 900	900 to 1000	1000 to 1100	1100 to 1200
No. of tubes	59	50	18	08	04

2. a) Write note on confidence interval for means. **6**

   b) Mean annual rainfall at Baramati is 600 mm and standard deviation is 150 mm. Assuming the distribution to be normal find the probability that rainfall in a randomly selected year at Baramati is :

   i) Less than 450 mm.

   ii) Between 330 and 660 mm.

   iii) More than 550 mm.

   iv) Equal to 600 mm. **14**

P.T.O.

3. a) Write note on least squares. **6**

   b) Calculate 3 and 5 year running means for the following set of data. Plot the data and comment on it. **14**

Days	1	2	3	4	5	6	7	8	9	10
Sales	26	29	35	47	51	26	32	37	46	53
Days	11	12	13	14	15	16	17	18	19	20
Sales	28	30	36	46	54	28	31	36	46	54

4. a) Write note on linear regression equation. **6**

   b) Calculate Pearson's product moment correlation coefficient for the following set of data. **14**

   X : Arrival of commodity 'A' in market (in '000' quintals)

   Y : Price in retail market per kg.

X :	0.70	1.30	24.80	3.40	6.30	12.30	7.31	0.90
Y :	7.00	4.40	3.20	6.10	5.90	4.40	5.20	8.10

5. a) Write note on hypothesis testing. **6**

   b) Use X^2 test for the following contingency data and find whether the birth rate values per thousand according to literacy level are valid at 5% of significance level. **14**

Literacy level	**Wards**		
	I	II	III
Primary	35	25	15
Secondary	20	30	25
College	15	13	17

6. Test the hypothesis at 0.05 and 0.01 level of significance that both the samples given below do not vary from each other significantly. **20**

S1 (No. of villages)	8	11	16	9	21	18	6	10	7	21
S2 (No. of villages)	13	15	19	9	18	16	7	10	2	21

7. Write notes on **any two** : **20**

   i) Skewness and kurtosis.

   ii) Binomial and Poisson distribution

   iii) Analysis of variance.

[3626] – 210

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 223 : Geography of Rural Settlement
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Explain with suitable examples the reflection of geographical and cultural aspects in the place names of settlements.

2. What is dispersion of settlements ? Describe factors influencing dispersion, with suitable examples.

3. Critically examine 'Central Place Theory'.

4. Describe demographic aspects of rural settlements.

5. Analyse the rural house types on the basis of size, functional use and building material.

6. 'Population and amenities are the vital aspect of rural development planning' - Discuss.

7. Write notes on **any two :**
   a) Rural transformation
   b) Ricardo's rent theory
   c) Settlement patterns in Maharashtra.

[3626] – 211

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 224 : Geoinformatics – II
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define Remote sensing system and give a historical perspective of it with respect to national and international scenario.

2. Explain the concept of blackbody radiation and give a brief account of spectral signatures.

3. What are the major geometric differences between a map and a vertical photograph ? Explain the reasons for the distortions in aerial photograph.

4. Define atmospheric windows and explain why remote sensing of the earth surface is generally confined to these wavelengths.

5. Give a broad outline of all the IRS data products.

6. What is GPS ? Explain the principle of operation of GPS and describe the major types of errors that influence GPS accuracy.

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

   a) Spectral Signature

   b) False Colour Composite

   c) GPS.

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[3626] – 22

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 210 : Tropical Geomorphology
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the morphogenetic regions in the tropics.
2. Explain the process and products of weathering in the tropical environment.
3. Distinguish between duricrust and laterites. Explain the properties of laterites.
4. Discuss the stream erosion and deposition in the tropical rivers.
5. Describe the relief characteristics and valley forms in the tropics.
6. Explain the formation and types of planation surfaces in the tropics.
7. Write notes on **any two** :
   a) Classification of tropics
   b) Distribution of laterites in India
   c) Quaternary change in climate.

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[3626] – 23

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 211 : Synoptic Climatology
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

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

1. Define synoptic climatology and explain its nature and scope.

2. Give an account of the formation and characteristics of Easterly waves.

3. Explain the environmental impact of severe tropical weather systems.

4. Define airmass and differentiate between airmasses of Asia and Europe.

5. Describe the life cycle of wave cyclone in the extra-tropical climate.

6. Give a comparative account of hot and cold waves in local weather system.

7. Write notes on **any two :**
   a) Analytical approach
   b) Importance of satellite in weather forecasting
   c) Disaster prevention and preparedness.

[3626] – 24

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 212 : Agriculture Geography (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. What is agricultural geography ? Describe different approaches in the study of agricultural geography.

2. 'Agriculture is very significant and basic activity in the world' - Elaborate.

3. Describe various agricultural types practiced in India.

4. Describe impact of economic determinants on agricultural activity in India after independence.

5. What is agricultural regions ? Describe various methods of regionalization.

6. Describe land classification in Great Britain and India.

7. Write notes on **(any two) :**
   a) Mechanization in agriculture
   b) Problems of agriculture in arid region.
   c) Kendall's ranking coefficient.

[3626] – 25

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY (2005 Pattern)
Gg – 213 : Population Geography (Old)

Time : 3 Hours Max. Marks : 80

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

1. Define population geography and explain its dynamic nature.
2. Critically examine the optimum population theory.
3. Account for the uneven distribution of the world population.
4. Describe the recent fertility levels and trends in developed countries.
5. Critically examine the Lee's theory of migration.
6. Explain religious and language composition of population.
7. Write notes (**any two**) :
   a) Infant mortality.
   b) Use of population projection for agricultural development.
   c) Population policies after Second World War.

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[3626] – 26

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 214 : Geoinformatics – I (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Describe the basic analytical capabilities of a GIS.

2. What is meant by database ? Explain major database that are used for geographical analysis.

3. Describe various types of digitizers and its role with reference to manual, semi-automatic and automatic digitization.

4. Giving suitable examples explain 'Attribute query' in detail.

5. Explain the suitable examples storing geographical data in DBMS.

6. Explain spatial database with reference to local and focal grid operations in GIS.

7. Write notes on **any two :**
   a) History of GIS
   b) Topology building
   c) SQL.

[3626] – 27

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg-220 : Fluvial Geomorphology (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the Glock's model of drainage network development.

2. Explain the various types of flows in open channel hydraulics.

3. Give an account of downstream hydraulic geometry.

4. Differentiate between various channel patterns in fluvial system.

5. Explain the different erosional features associated with fluvial erosion.

6. Define the term terraces. Discuss the formation and types of terraces.

7. Write notes on **any two** :
   a) Belt of no erosion.
   b) Isovels.
   c) Quaternary fluvial system.

[3626] – 28

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg – 221 : Monsoon Climatology (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

1. Explain in detail the development of monsoon climatology.
2. Explain the characteristics of monsoon of East Asia.
3. Give a brief account of driving mechanism of monsoon.
4. Give an account of on-set and withdrawal of monsoon.
5. Write an account on intra-seasonal active and break monsoon situations.
6. What is walker circulation ? Explain the importance of walker circulation in teleconnection.
7. Write notes on **any two** :
   a) Environmental and economic importance of monsoon.
   b) Fohn's concept of origin of monsoon.
   c) Off-shore trough along west coast of India

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B/II/09/100

[3626] – 29

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY (2005 Pattern)
Gg – 222 : Industrial Geography (Old)

Time : 3 Hours Max. Marks : 80

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

1. Describe geographical and economical factors affecting location of industries.
2. Critically examine the Weber's model of industrial location.
3. Describe the changing pattern and distribution of chemical industries with reference to India.
4. Give a brief account of industrial regions of Anglo America.
5. Explain the nature of industrial regions in India.
6. Discuss problems and prospects of Information Technology Industry in India.
7. Write notes on **any two** :
   a) Scope of industrial geography.
   b) Distribution of iron and steel Industry.
   c) Green hut's model.

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[3626] – 3

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg – 103 : Principles of Economic Geography
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

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

1. Define economic geography and explain its nature and scope.

2. Explain various types of hypothesis.

3. Give an account of historical evolution of economic landscape.

4. Discuss the significance of natural and human resources.

5. Explain various measures of economic development.

6. Discuss Ricardo's classical theory of international trade.

7. Write notes on **any two** :
   a) Classification of countries based on economic development.
   b) Regional disparity in India.
   c) Impact of globalization on India's economic development.

[3626] – 30 A

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY
Gg-224 : Geoinformatics – II (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. What is a remote sensor ? Explain the main components of a sensor and describe the basic types of sensor used in remote sensing.

2. Draw a schematic diagram to explain the electromagnetic spectrum. Define atmospheric windows and explain why remote sensing of the earth surface is generally confined to this wavelength.

3. Write a note on the principle and limitations of the optical system. Describe the types of aberrations associated with the optical system and their effects.

4. Write a note on the influence of atmosphere on remote sensing.

5. "The type and level of thematic information extracted from satellite images varies with geometric resolution and the spectral range of the cameras". Discuss this statement with reference to the IRS WIFS, LISS and PAN cameras.

6. What is GPS ? Outline major fundamental concepts of GPS with respect to space segment, control segment and user segment.

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

   a) IRS Programmes

   b) MSS

   c) Data formats of Remote Sensing.

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[3626] – 30

M.Sc. (Semester – II) Examination, 2009
GEOGRAPHY (2005 Pattern)
Gg-223 : Geography of Rural Settlements (Old)

Time : 3 Hours Max. Marks : 80

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

1. Describe evolution of settlements in different parts of the world.
2. What is nucleation of settlement ? Describe factors influencing nucleation.
3. Critically examine central place theory.
4. Describe the causes and consequences of rural urban migration.
5. Describe various house types in Maharashtra with examples.
6. Discuss water an environment are the vital aspects of rural development planning.
7. Write notes (**any two**) :
   a) Factors affecting growth of settlements.
   b) Rural service centers.
   c) Rural transformation.

[3626] – 301

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 301 : Theoretical and Applied Geography
(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the contribution of Strabo and Ptolemy in the development of geographical thought.

2. Examine the concept of dualism in Determinism and possibilism.

3. Explain the various types of laws in the study of geography.

4. Bring out the importance of Quantitative revolution in geographical studies.

5. "The recent trend of Remote sensing and GIS techniques has revolutionised the study of geography". Discuss.

6. Write an essay on the need and significance of Applied Geography.

7. Write notes on **any two :**
   a) Age of Discovery
   b) Physical versus Human Geography
   c) Process studies.

[3626] – 302

M.Sc. (Semester – III) Examination, 2009

GEOGRAPHY

Gg-310 : Coastal Geomorphology (Special Paper – I)

(2008 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Write in detail about the components of coastal system.

2. What are sea waves ? Describe various types of sea waves.

3. Explain transgression, regression, relative and eustatic sea level change.

4. Explain in brief nature of coastal sediments.

5. Bringout the characteristics of wave dominated coast with reference to beaches and spits.

6. List the current coastal issues and give an account of 'coastal erosion'.

7. Write notes on **any two** :
   a) Equilibrium theory of tides.
   b) Indicators of former sea levels.
   c) Mangrove swamps and salt marshes.

[3626] – 303

M.Sc. (Semester–III) Examination, 2009
GEOGRAPHY
Gg – 311 : Applied Climatology
(2008 Pattern) (Special Paper – I)

Time : 3 Hours Max. Marks : 80

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

1. Define applied climatology and describe various tools of applied climatology.

2. Describe the relationship between soil and plant and explain emperical methods to estimate evapo-transpiration in brief.

3. Bringout the relationship between climate and human behaviour.

4. Explain the satellite programming in remote sensing in the field of agriculture.

5. Describe in brief the internal and external causes of climatic change.

6. Give an account of astronomical reconstruction of past climate.

7. Write notes on **any two :**
   a) Climate and livestock.
   b) Urban air pollution
   c) Ocean floor sediments.

[3626] – 304

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 312 : Trade and Transport Geography
(2008 Pattern) (Special Paper – I)

Time : 3 Hours Max. Marks : 80

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

1. Explain the significance of transportation in world and regional economies.
2. Describe the factors associated with the growth of roadway and railway network.
3. Explain the models of network changes in transport network.
4. Explain the growth of urban transportation in developing countries.
5. Give an account of Neo-classical theory of trade.
6. Give an account of the major trade areas and economic blocks in the world with suitable examples.
7. Write notes on **any two** :
   a) Hinterland
   b) Significance of trade and transport network
   c) Geographical factors influencing international trade.

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[3626] – 305

M.Sc. (Semester – III) Examination, 2009

GEOGRAPHY

Gg-313 : Urban Geography

(2008 Pattern)(Special Paper – I)

Time : 3 Hours Max. Marks : 80

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

1. Describe the spatio-temporal variations in urbanization in the World.
2. Discuss the Homer Hoyet's morphological model of urban structure.
3. Explain the functional classification of towns proposed by C.D. Harris.
4. Describe various criteria used for demarcation of city region.
5. Describe the hierarchy of urban settlements with suitable examples.
6. Explain the need of city planning and new towns.
7. Write notes on **any two** :
   a) Relation of urban geography with other disciplines.
   b) Satellite towns.
   c) Urban sprawl.

[3626] – 306

M.Sc. (Semester–III) Examination, 2009
GEOGRAPHY
Gg – 314 : Geoinformatics – Paper – III
(2008 Pattern) (Special Paper – I)

Time : 3 Hours Max. Marks : 80

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

1. Give an account of various grid operations in spatial analysis.

2. What do you understand by spatial interpolation ? Discuss various applications of DEM and DTM.

3. Elaborate the process of image rectification and discuss various types of errors in digital image processing.

4. Explain various steps involved in digital image processing.

5. Distinguish between supervised and unsupervised image classification and explain both of them with suitable examples.

6. Give an account of basic concepts of LIDAR and SRTM remote sensing.

7. Write notes on **any two :**
   a) NDVI
   b) Hyper spectral RS
   c) Network analysis.

[3626] – 307

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 320 : Multivariate Statistics
(2008 Pattern)(Special Paper – II)

Time : 3 Hours Max. Marks : 80

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

1. a) Find [A] + [B]+ [C], [A] – [B] – [C] and [A] × [B] × [C] from the following matrices

$$A = \begin{bmatrix} 10 & 15 \\ 32 & 17 \end{bmatrix} \qquad B = \begin{bmatrix} 22 & 11 \\ 35 & 44 \end{bmatrix} \qquad C = \begin{bmatrix} 15 & 22 \\ 12 & 17 \end{bmatrix}$$ **12**

b) Write a explanatory note on Hypothesis testing. **8**

2. a) Find the constants in the following set of simultaneous equations

$$a - b + 4c = 30$$
$$6a + 2b - c = 28$$
$$4a + b + c = 30$$ **12**

b) Define determinant, singular matrix, principal diagonal and symmetric matrix. **8**

3. Extract first two principal components from the given matrix and interprete the results

$$\begin{array}{c} X_1 \quad X_2 \quad X_3 \quad X_4 \quad X_5 \quad X_6 \\ \begin{bmatrix} 1.00 & 0.50 & 0.13 & 0.17 & -0.41 & 0.68 \\ & 1.00 & 0.43 & 0.31 & -0.04 & 0.77 \\ & & 1.00 & 0.50 & -0.09 & 0.18 \\ & & & 1.00 & 0.37 & 0.08 \\ & & & & 1.00 & -0.38 \\ & & & & & 1.00 \end{bmatrix} \end{array}$$ **20**

P.T.O.

4. Find the linear trend in the pixels of raster image of a DEM and plot the surface to a suitable scale

X =	1	2	3	4	5	6	7	8	9	10	11	12
Y =	0.9	4	6	7	6	8	9	10	11	09	10	11
Z =	21	42	32	09	08	09	10	20	28	32	20	28

20

5. Using the following data compute multiple regression and interpret the results

Means : $\overline{Y} = 69.2727$, $\overline{X}_1 = 2.4364$, $\overline{X}_2 = 1.5636$ $\overline{X}_3 = 0.9$ n = 11

Variances : $\sigma^2 Y = 1396.926$, $\sigma^2 X_1 = 5.1587$ $\sigma^2 X_2 = 2.4423$ $\sigma^2 X_3 = 0.7236$

Covariances : Cov $YX_1 = -76.8918$, Cov $YX_2 = -52.1809$

Cov $YX_3 = -25.1182$, Cov $X_1X_2 = 3.3677$

Cov $X_1X_3 = 1.8236$, Cov $X_2X_3 = 1.1600$

Where, Y = Urban population density

X_1 = Distance from CBD, X_2 = Distance from nearest shopping centre, and X_3 = Distance from the main bus station. **20**

6. a) State the significance of factor analysis in physical geography. **10**

   b) Bring out the importance of computer applications in multivariate analysis. **10**

7. Write notes on **any two** : **20**

   a) Need of multivariate analysis in geography

   b) Concept of regionalisation

   c) Use of trend surface analysis in geography.

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[3626] – 308

M.Sc. (Semester–III) Examination, 2009
GEOGRAPHY
Gg – 321 : Political Geography
(2008 Pattern) (Special Paper – 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**.*

1. Discuss the history and development of political geography.

2. Discuss the key concepts and approaches to the study of Political Geography.

3. Write an essay on nation building and growth of nations.

4. Differentiate between frontiers and boundaries and bring out the importance of frontiers in Political Geography.

5. Explain Mahan's concept of sea power and the role of the sea in global strategies.

6. Describe the geopolitical significance of SAARC region.

7. Write notes on **any two :**
   a) Unified Field Theory
   b) Resources and power of nation
   c) Interstate language disputes in India.

[3626] – 309

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg-322 : Soil Geography
(2008 Pattern) (Special Paper – II)

Time : 3 Hours Max. Marks : 80

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

1. Give the importance of the study of soils and explain its relationship with various disciplines.

2. Explain how the soil formation process is affected by the parent material and climate.

3. Describe the chemical properties of soils.

4. Explain the genetic structure of soils with reference to primary minerals, texture and organic matter.

5. Describe the soil classification system of the United States.

6. Describe in brief the problems related to soil degradation.

7. Write notes on **any two** of the following :

   a) Productivity of soils

   b) Soil structure

   c) Physical weathering and soils.

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M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg-301 : Theoretical and Applied Geography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the contribution of Kant and Humboldt in the development of geographical thought.

2. Outline the contribution of German, French and Americans in the development of theoretical geography.

3. Write a geographical essay on dualism of regional and systematic geography.

4. What is meant by system approach ? Explain the structure, elements and links of a system.

5. Explain the significance of quantitative revolution in the development of geography.

6. Explain the concepts and techniques used in resource management.

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

   a) Contribution of W.M. Davis

   b) Models in geography

   c) GIS.

[3626] – 32

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 310 : Coastal Geomorphology
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Give an account of coastal systems with reference to its components.
2. Define 'wave' and describe various types of waves.
3. Describe tides with respect to amphidromic point, co-tidal lines and tides in bays and estuaries.
4. Distinguish between clastic and biogenic sediments and discuss major sources of sediments.
5. Give an account of the classification of coastal deltas and their formation.
6. Outline the major features in wave dominated coast.
7. Write notes on **any two** :
   a) Genetic classification of coast
   b) Wave refraction and diffraction
   c) Corals and coral reefs.

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[3626] – 33

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 311 : Applied Climatology
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Give an account of development of climatology.

2. Explain the mechanism of various instruments used to measure radiation and atmospheric temperature.

3. Explain the micro-meteorogical changes with reference to behaviour of pests and diseases.

4. Describe the influence of climate on human health with suitable examples.

5. Explain the influence of climate on industrial activities.

6. Describe the development of Indian Remote sensing.

7. Write notes on **any two** of the following :

   a) External causes of climate change

   b) Tools of applied climatology

   c) Significant climate variables.

[3626] – 34

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg-312 : Trade and Transport Geography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Give an account of the contribution made by different scholars in the development of trade and transport geography.

2. Account for the characteristics and relative significance of waterways and airways.

3. Explain with suitable examples the physical and economic factors associated with the growth of sea ports.

4. Describe the relationship between transport network and economic development of a region with suitable examples.

5. Account for the major trade areas of economic blocks in the world.

6. Give an account of the geographical factors influencing international trade.

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

   a) Growth of urban transportation in developing countries.

   b) Nodes and routes.

   c) Vehicular pollution and congestion.

[3626] – 35

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg-313 : Urban Geography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Explain the nature, scope and significance of urban geography.

2. Explain the contemporary factors of urbanization and urbanization curve.

3. Explain various approaches to urban classification and describe functional classification proposed by H.J. Nelson.

4. Describe age, sex and occupational structure of Urban Population with suitable examples.

5. What is a city region ? Explain various criteria used for demarcation of the city region.

6. Discuss in detail the scarcity of housing and growth of slums in urban areas with suitable examples.

7. Write notes on **any two** :
   a) Characteristics of C.B.D.
   b) Significance of rank size relationship.
   c) New towns.

[3626] – 36

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 314 : Geoinformatics (Paper – III)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Give an account on local, focal, zonal grid operations in spatial analysis.
2. Differentiate between point pattern analysis and network analysis giving suitable examples.
3. Describe various sources of distortions in DIP.
4. Give an account of 'Image enhancement'.
5. Give an account of 'ISODATA approach in DIP'.
6. What do you understand by confusion matrix ? Explain producers and user's accuracy with suitable examples.
7. Write notes on **any two** :
   a) DEM
   b) Parallel piped and MXL classifiers
   c) Spatial modelling.

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[3626] – 37

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg-320 : Multivariate Statistics
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

N.B. : *1) Attempt **any four** questions.*
*2) **All** questions carry **equal** marks.*
*3) Use of calculator, statistical table etc. is **allowed**.*

1. Explain with examples applications at multivariate methods in geography. **20**

2. A) Explain with examples, major types of matrices. **8**

   B) Find the unknowns of the following equations by Crammer's rule method
   $2X + 3Y = 25$, $X + 20Y = 105$, $X – Y = 0$, $3X + 4Y = 35$. **12**

3. The following table records the data for tide level monitoring carried out at station 'A'. Using appropriate regression model express the trend of data. Find the estimated tide levels at 07.00, 13.00 and 16.00 hrs. **20**

Time of observation (Hours)	05.00	06.30	08.00	09.30	11.00	12.30	14.00	15.30	17.00
Tide level above datum	0.65	1.10	2.25	2.77	7.27	3.11	2.65	1.46	1.13

4. Compute co-efficient of multiple correlation (R) and explained variance (E_r) for the following. Interpret the results.

   X_1 = Jawar, X_2 = Bajara, X_3 = Vegetables

   X_1 = 2, 3, 5, 6, 8, 11, 15

   X_2 = 9, 6, 7, 5, 4, 5, 3

   X_3 = 5.3, 4.9, 3.8, 3.3, 2.7, 1.8, 1.3. **20**

P.T.O.

5. Compute the linear trend surface for the following observations for temperature of ponds developed on a plateau. Also calculate the explained variance. Plot the trend and interpret it. **20**

X	10	1	7	4	1	6	10	9	7	3
Y	3.5	1.0	4.0	1.2	3.0	0.5	2.5	0.8	2.0	2.5
Temp. ($^{\circ}$**C**)	25	18	22	17	20	16	20	15	16	18

6. Find first two principle components, eigen values and explained variance from the following matrix of correlation. **20**

	X_1	X_2	X_3	X_4	X_5
X_1	1.0	0.7	–0.8	0.9	–0.3
X_2		1.0	0.7	–0.5	–0.2
X_3			1.0	0.6	0.9
X_4				1.0	0.4
X_5					1.0

7. Write notes on **any two** : **20**
   a) Communalities
   b) Stepwise regression
   c) Quadratic trend surface.

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[3626] – 38

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg – 321 : Political Geography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Describe the nature, scope and development of political geography.
2. Give an account of methodological development in political geography.
3. Examine the global strategic views of Spykman and De Seversky.
4. Discuss in detail the process of state formation and nation building.
5. Discuss the interstate issues with respect to water disputes in India with examples.
6. What are the issues of stability and instability of contemporary India ?
7. Write notes on **any two** :
   a) Geopolitical significance of Indian Ocean
   b) Federalism and colonialism
   c) Frontiers and boundaries.

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[3626] – 39

M.Sc. (Semester – III) Examination, 2009
GEOGRAPHY
Gg-322 : Soil Geography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define soil geography and explain the relationship of soil geography with human geography.

2. Explain how the soil formation processes are affected by climate and topography.

3. Describe various physical properties of soils.

4. Describe various horizons of the soil profile.

5. Classify the tropical soils and describe the process of formation and characteristics of laterite soils.

6. Describe various causes of soil degradation.

7. Write notes on **any two** of the following :
   a) Parent material and soil.
   b) Organic matter in the soils.
   c) Cation exchange capacity.

[3626] – 4

M.Sc. (Semester – I) Examination, 2009
GEOGRAPHY
Gg – 104 : Principles of Settlement and Population Geography
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

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

1. Describe the changes in the approaches to the study of population geography.

2. Explain the effects of technology on Shelter from neolithic to modern period.

3. Explain the concept of nucleation and describe physical factors affecting nucleation.

4. Describe the factors influencing population distribution.

5. Critically examine the Malthus theory of population.

6. Discuss the various aspects of population as a resource.

7. Write notes on **any two :**
   a) Nearest neighbour method
   b) Level of urbanization
   c) Threshold and hierarchy.

[3626] – 401

M.Sc. (Semester – IV) Examination, 2009

GEOGRAPHY

Gg-401 : Natural Resource Management

(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the problems of resource utilization in resource management.
2. Discuss the historical background of the use of mineral resources with suitable examples.
3. Write an essay on the various tools and methods of resource conservation.
4. Give an account of the appraisal of land resources with suitable examples.
5. Bring out the importance of sustainable management in developing countries.
6. 'Resources are not, they become' – Elaborate.
7. Write notes on **any two** :
   a) Wind Energy.
   b) Institutional arrangements in resource management.
   c) Rain harvesting.

[3626] – 402

M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg - 420 : Regional Planning and Development
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. What is Regional Concept ? Discuss the nature of changing concept of the region.

2. Describe in brief various criteria used for typology of regions.

3. "Metropolitan regions is the special purpose region". Discuss.

4. Describe the sectoral, temporal and spatial dimensions used in the delineation of region.

5. Discuss the development strategies about regional concentration and dispersal.

6. Examine the role of regional planning in India with reference to desert land and hilly area development.

7. Write notes on **any two :**
   a) Concept of space area and location attribute
   b) Single purpose and composite region
   c) Growth Poles and Centers.

[3626] – 403

M.Sc. (Sem. – IV) Examination, 2009
GEOGRAPHY (2005 Pattern)
Gg-421 : Geography of Water Resources

Time : 3 Hours Max. Marks : 80

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

1. Discuss major components of the hydrological cycle.
2. Give an account of 'Water harvesting techniques'.
3. Explain saline water instrusion into coastal acquifers with suitable examples.
4. Give an account of 'Industrial use of Water'.
5. Describe various case studies of major floods in Bangladesh.
6. Distinguish between droughts and famines and discuss various methodologies used in drought management.
7. Write notes on **any two** :
   a) Integrated basin planning
   b) Watershed management
   c) International water disputes.

[3626] – 404

M.Sc. (Semester – IV) Examination, 2009

GEOGRAPHY

Gg-422 : Biogeography

(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss the role of biogeography in environmental science.

2. Give an account of floral kingdoms as a biogeographic patterns.

3. Explain the distribution patterns of habitats and micro-habitats.

4. Discuss major biogeographic processes in detail.

5. Write a essay on equatorial succession.

6. Mention major biomass of the World and describe the biomass of arid regions.

7. Write notes on **any two** :
   a) Hazards of Island life.
   b) Limits of distribution.
   c) The idea of continental drift.

B/II/09/100

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg – 423 : Geography of Ecosystem
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Explain the concept of ecosystem and describe its components in detail.

2. Explain the forest ecosystem and grassland ecosystem.

3. Explain the impact of human activities on environment.

4. What is biodiversity ? Explain methods of preservation and conservation of biodiversity.

5. Give a brief account of Stockholm Conference (1972) on environment protection.

6. Do big dams make destruction of environment ? Comment with suitable examples.

7. Write notes on **any two :**
   i) Food chain and food web
   ii) Habitat
   iii) Urban ecosystem.

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg-430 : Social and Cultural Geography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Explain the nature and trends of social and cultural geography.

2. Describe philosophical bases in social geography and explain the concept of culture in Geography.

3. Explain social structure, models of assimilation and segregation with examples.

4. Discuss unity in diversity in India with reference to literacy.

5. Describe the methods of measuring well-being by weighing indicators.

6. Explain social and physical infrastructure availability in human settlement.

7. Write notes (**any two**) :
   1) Modernization.
   2) Idealism.
   3) Dialect.

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg – 432 : Oceanography
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Define Oceanography. Explain post-war oceanography and modern trends.
2. Briefly explain the theory of Plate Tectonics.
3. Define salinity. Explain the origin and composition of sea salts and residence time.
4. Explain the origin tsunamis. Describe the characteristics of tsunamis in deep and shallow water.
5. What is ocean current ? Describe the types of ocean currents with their causes and effects.
6. What is marine life ? Describe the phytoplanktons, the zooplanktons and the meroplanktons.
7. Write short notes on **any two** :
   a) Nature of Oceanography
   b) Volcanoes at the ocean floor
   c) Oceanic Ooze.

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M.Sc. (Sem. – IV) Examination, 2009
GEOGRAPHY (2005 Pattern)
Gg.433 : Natural and Man made Hazards

Time : 3 Hours Max. Marks : 80

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

1. Define natural hazards. Explain the different types of natural hazards.
2. Discuss the effects of dust storms and cyclonic storms.
3. Give an account of causes and effects of floods.
4. Discuss the causes and effects of soil erosion.
5. Elaborate the impact of large river projects with reference to Sardar Sarover Project.
6. Explain the effects of release of toxic elements in the air and soil.
7. Write notes (**any two**) :
   a) Effects of desertification
   b) Global warming
   c) Effects of over exploitation of natural resources.

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg-441 : Regional Geography of a Meso Region – Europe
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Discuss in detail the climatic characteristics and vegetation regions of Europe.
2. Give a geographical account of energy and mineral resources of Europe.
3. Explain the industrial regions of Europe.
4. Write an account of growth and distribution of population of Europe.
5. Explain urbanization and urban problems of Europe.
6. Describe trade partners and membership of international trade treaties of Europe.
7. Write notes on **any two** :
   a) Geological setting of Europe.
   b) Important tourist centres of Europe.
   c) Impact of I and II world-war on economic development of Europe.

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg-442 : Regional Geography of a Meso Region-South Asia
(2005 Pattern)

Time: 3 Hours Max. Marks: 80

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

1. Explain the major climatic characteristics and vegetation regions of South Asia.
2. Give an account of major industries, their problems and prospects in South Asia.
3. Assess the influence of globalization on international trade of South Asia.
4. Explain the development of transportation in South Asia.
5. Write an essay on population composition of South Asia.
6. Describe the growth and distribution of settlements in South Asia.
7. Write notes on **any two** :
   a) Locational significance of South Asia.
   b) Salient features of Agriculture of South Asia.
   c) Ethnic problems of India.

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY
Gg – 443 : Regional Geography of Meso Region-North America
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. Divide North America into major physiographic units and describe the Western Cordiller region in detail.

2. Give an account of major mineral regions of North America.

3. Write an account on development of industrial regions in North America.

4. Write a geographical essay on various means of transportation and their development in North America.

5. Explain the growth and distribution of population in North America.

6. Describe the growth and distribution of settlements in North America.

7. Write notes on **any two :**
   a) Significance of location of North America.
   b) Economic international organizations in North America.
   c) Scope for tourism in North America.

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M.Sc. (Semester – IV) Examination, 2009
GEOGRAPHY (2005 Pattern)
Gg-444 : Regional Geography of Meso-Region Japan

Time : 3 Hours Max. Marks : 80

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

1. Give an account of climatic characteristics and vegetation regions of Japan.
2. Explain the flood, typhoons and tsunamies as a natural hazards in Japan.
3. Explain the agricultural regions, major crops and changing scenario of agriculture in Japan.
4. "The economy of Japan is largely dependent on the industrial development". Justify.
5. 'Development of Japan depends on population resource'. Discuss.
6. Discuss the development of transportation network in Japan.
7. Write notes on **any two** :
   a) Population composition
   b) Hydal power as a resource
   c) National economic policies of Japan.
