DEPARTMENT OF GEOGRAPHY
VIDYA BHAVANA
VISVA-BHARATI

M.A. Examination-2024
Geography
Semester-I
Paper - I
Course Name: Geomorphology

Time: 3 Hours

Full Marks: 40

Questions are of values as indicated in the margin
Attempt any ***three*** *questions selecting* ***one from each unit***

Unit-1: Concept, Approaches and Models in Geomorphology

1. Explain the different types of *Equilibrium* in the context of geomorphology. Bring out different *Time Scales* associated with geomorphological phenomena. 8+6=14

2. Describe the process of slope development as proposed by Davis and Wood. Highlight the characteristics of *Peneplain.* 10+4=14

Unit-2: Geomorphic Processes and Forms

3. Briefly discuss the concept of *Morphogenetic region* . Explain the fluvial processes and forms developed in semi-arid regions. 5+8=13

4. Elaborate the types of *Morpho-climatic regions* as proposed by *Budel* (1948). Write a short note on the significance of *Climatic geomorphology.* 10+3=13

Unit-3: Regional and Applied Geomorphology

5. Narrate the geomorphology of Ranchi Plateau with suitable diagrams. Discuss the importance of *Regional geomorphology.* 8+5=13

6. What is the significance of *Applied geomorphology* . What do you mean by *Meso* and *Micro* scale landform? 10+3=13

GEOGRAPHY
M.A. Examination 2024
Semester I
Paper – II
Course Title: Climatology

Full Marks: 40

Time: 4 hours

Questions are of values as indicated in the margin. Attempt all questions.

UNIT-I

1. What is pressure gradient and how does it regulate air flow? Mention the characteristics of trade winds and their influence on the climatic phenomena of the tropics. 4+4+6=14
2. In which part of the world is the Walker Circulation found and what does it refer to? Elucidate the effect of ENSO on the tropical and sub-tropical climates. 4+10=14

UNIT-II

3. Briefly discuss the theories of the origin of Indian Monsoons. Elaborate on the factors responsible for Monsoon rainfall variability over India. 7+6=13
4. Mention the characteristics of Nor'westers? What are the causes and consequences of acid rain? 4+4+5=13

UNIT-III

5. Briefly discuss the principal theories of climate change. Write a short note on the trend of climate change in recent years. 8+5=13
6. Elucidate the influence of climate change on agriculture with special reference to India. Mention the characteristics of agro-climatic zones in India. 5+8=13

M. A. Examination 2024
Semester I
Geography
Paper: III
Industrial Geography

Time: 3 hours **Full Marks: 40**

Questions are of values as indicated in the margin.
*Attempt any **three** questions selecting **one from each unit**.*

Unit-I
(Contents, Tools and Basic Inputs)

1. What do you understand by 'Capital Intensive Industry'? Assess the role of Land and Capital as essential determinants in Industrial location. 4+10=14

2. Why is National Industrial Classification (NIC) important? Distinguish between Behavioral and Marxist approaches to the study of Industrial Geography. 6+8=14

Unit-II
(Market, Transportation Cost, Linkages and Indian Industrial Situation)

3. What is an Industrial Region? Bring out the salient features of the Mumbai-Pune and Hugli Industrial Regions in the context of their problems and opportunities. 3+10=13

4. Distinguish between perfect competition and monopoly market structures. How do target group and socio-economic behaviour of customers influence market expansion? 8+5=13

Unit- III
(Basics of Industrial Location Theories)

5. 'Profit Maximization is the only objective of the Entrepreneur' – Explain the statement with respect to market area approach of Losch. 13

6. What is Critical Isodapane? Discuss the influence of transport and labour costs on industrial location with respect to the Least-cost location theory postulated by Alfred Weber. 3+10=13

DEPARTMENT OF GEOGRAPHY
VIDYA BHAVANA
VISVA-BHARATI

MA Examination 2024
Semester I
Geography
Paper IV
Agricultural Geography

Time : 3 Hours | Full Marks :40

Questions are of value as indicated in the margin
Answer Any THREE questions selecting one from each Unit

UNIT I
(Agricultural Geography: Historical Perspective)

1. Bring out the recent changes in the approaches to study Agricultural Geography 14

2. Write notes on the following 7+7=14
   a) Relevance of the concept of agro ecosystem
   b) Era of Quantification in Agricultural Geography

UHIT II
(Dimensions of Contemporary Agriculture)

3. Discuss the theories explaining the changes in different aspects of agriculture since historical time period 13

4. Give a brief description of different strategies to mitigate world hunger.
What are the different considerations for identifying beneficiaries of world hunger management programmes? 6+7=13

UNIT III
(Dimensions of Globalized Agriculture)

5. "The process of globalization signals the end of Geography or the death of distance, making space and location irrelevant".Comment. 13

6. Discuss how sustainability may be achieved in Agriculture. 13

Department of Geography
Visva-Bharati, Santiniketan

M.A. Examination 2024
Semester I
Paper – V
Course Title: Quantitative Techniques in Physical Geography (Geomorphology & Climatology)

Time: 4 hours | Full Marks: 40

Questions are of values as indicated in the margin. Attempt all questions.

1. Prepare a map of stream ordering and calculate bifurcation ratio of the given river basin (Map No. 1). Interpret the result. 6+2=8

2. Calculate dissection index and prepare a zonation map (Map No. 1). Interpret the result. 6+2=8

3. Prepare a rainfall deviation graph from the given data and interpret it. 6+2=8

Sl. No.	Sub-Division	Rainfall (mm) in 2010	Normal Rainfall (mm)
1	Assam & Meghalaya	2498.7	2898.2
2	Nagaland, Mizoram, Manipur & Tripura	2027.2	2139.5
3	Sub-Himalayan West Bengal & Sikkim	2849.3	2600.9
4	Gangetic West Bengal	1084.4	1492.9
5	Odisha	1332.3	1478.6
6	Jharkhand	803.7	1306.6
7	Bihar	941.9	1213.6
8	Uttar Pradesh East	758.5	1036.2
9	Uttar Pradesh West	818.7	885.5
10	Uttaranchal	1864.3	1564.5

4. Calculate the moisture indices from the data given for two stations and interpret the results. 6+2=8

Station	Weather Elements (mm)	J	F	M	A	M	J	J	A	S	O	N	D
A	P	2.2	0.0	0.6	2.0	9.3	106.9	282.7	239.7	109.6	27.7	15.7	1.5
	PE	91.1	105.0	150.0	177.1	213.1	186.3	125.5	111.4	131.0	129.7	98.3	85.1
	WHC	180	180	180	180	180	180	180	180	180	180	180	180
B	P	14.3	24.9	43.4	84.0	143.0	309.9	343.2	340.1	300.8	144.5	53.8	8.5
	PE	81.5	100.8	160.8	187.8	194.6	145.8	129.5	123.8	117.6	121.5	90.9	76.1
	WHC	250	250	250	250	250	250	250	250	250	250	250	250

Note: P – rainfall, PE – potential evapo-transpiration; WHC – water holding capacity

5. Laboratory Notebook & Viva-voce. 4+4=8

M. A. Examination 2024

Semester I

Geography

Paper: VI (Practical)

Quantitative Techniques in Industrial and Agricultural Geography

Time: 4 hours **Full Marks: 40**

Questions are of values as indicated in the margin. Attempt all the questions

1. Compute Index of Agricultural Efficiency from the production value of crops of following districts of West Bengal (Table: 1) and interpret the result. 6+2=8

Table: 1

Production (in thousand tones)

Sl. No	*District Name*	*Total Foodgrains*	*Oilseeds*	*Jute*	*Potato*
1	Burdwan	2025.5	43.1	244.6	1291.5
2	Bankura	1053.1	25.1	6.9	479
3	Howrah	277.5	18.8	40.8	247.4
4	24-Parganas (N)	702.2	87.1	910.7	278
5	Nadia	943	141.5	2087.7	154
6	Uttar Dinajpur	963.2	40.2	586.5	307.8
7	Malda	902.2	39	396.1	164.7
8	Darjeeling	130.2	0.4	37.9	122
9	Birbhum	1393.6	38.5	17	445.1
10	Purba-Midnapur	889.7	39.2	4.9	112.4
11	Hooghly	808.9	74	421.9	2077.5
12	24-Parganas (S)	1020.6	15.9	31.6	85.5
13	Murshidabad	1486.3	114.8	2286.2	299
14	Dakshin Dinajpur	564.7	26.6	299.9	123
15	Jalpaiguri	609.6	16.9	423.6	990.3
16	Cooch Behar	872.1	10.8	917.1	598
17	Purulia	749.7	4.5	0.2	43.7
18	Paschim Midnapur	1764.4	104.1	64.7	1224.1

2. Enumerate GINI's co-efficient based on the data of distribution of operational holdings over size-classes (Table: 2) of Maharashtra and interpret the result. 6+2=8

Table: 2

Sl. No	*Range*	*Percentage of holdings*	*Percentage of area*
1	Upto 0.50 ha	27.42	4.10
2	0.51 to 1.00 ha	22.10	11.11
3	1.01 to 2.00 ha	26.70	24.83
4	Above 2.01 ha	23.79	59.96

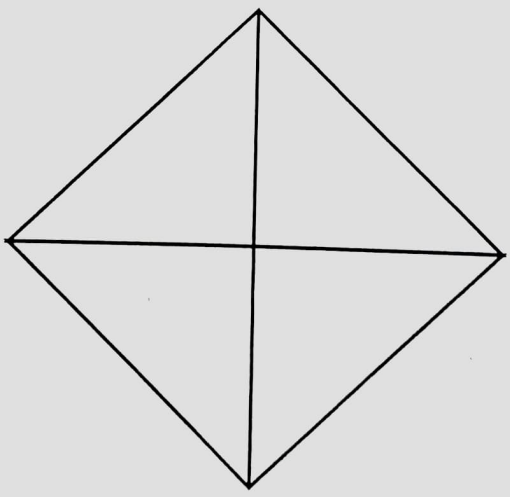
3. Find the Co-efficient of Geographical Association from the data given below (Table: 3). 8

Table: 3

SL No	District	No of Medium Units	No of Large Units	SL No	District	No of Medium Units	No of Large Units
1	Bidar	5	5	17	Kodagu	0	1
2	Bagalakote	2	17	18	Kolar	57	40
3	Bellary	12	11	19	Mysuru	43	22
4	Belagavi	31	38	20	Mandya	4	12
5	Chitradurga	3	1	21	Raichur	4	8
6	Chikkaballapura	8	1	22	Ramanagara	49	23
7	Chamarajanagar	5	2	23	Shivamogga	18	4
8	Chikkamagaluru	4	1	24	Tumkur	28	7
9	Dharwad	23	14	25	Uttarakannada	3	3
10	Davanagere	0	5	26	Udupi	26	7
11	Dakshina Kannada	23	21	27	Vijayapura	1	10
12	Gadag	2	1	28	Vijayanagara	0	4
13	Hassan	16	12	29	Yadgiri	0	1
14	Haveri	9	0	30	Bengaluru Rural	66	33
15	Koppal	17	12	31	Bengaluru Urban	766	366
16	Kalaburagi	0	12			1225	631

4. Calculate the Cyclomatic Number, Beta Index, Alpha Index and Gamma Index from the given Figure: 1. 8

Figure: 1



5. Viva-voce & Laboratory Note Book 4+4=8