

DIAMOND HARBOUR WOMEN'S UNIVERSITY
M.A/M.Sc. 4th Semester Examination - 2023
Subject: GEOGRAPHY
Paper Code: GEO/CC/TH/401
ENVIRONMENT AND REGIONAL GEOGRAPHY

Time: 2 hrs

Full Marks: 40

The figures in the margin indicate full marks

Answer any four questions selecting one from each Unit

Unit-I: Concepts and Environmental Issues

1. Elucidate the significance of 'geographical' and 'holistic' approaches in understanding man-environment relationship and solving environmental problems. What is a viable alternative to Big Dams? 7+3
2. Elaborate the Commissioning of Farakka Barrage and its impact on river bank erosion problems in West Bengal. State the major reasons of wetland encroachment in Indian Sundarbans. 7+3

Unit-II: Environmental Hazards, Pollution and Technology

3. What is social hazard? Mention the social hazards in the workplace. Give a brief account of initiatives of the Govt. of India towards 'Disaster Risk Reduction'? 2+2+6
4. What are the major human-health impact of water pollution? Highlight the mitigative measures of arsenic contamination in Gangetic plain of West Bengal. 5+5

Unit-III: India-Selected Regional Problems

5. What is Parochialism? State the different forms of regionalism. Opine with suitable examples whether ethnic conflicts lead to politics of regionalism in India. 2+2+6
6. Discuss the role of Pradhan Mantri Gram Sadak Yojana (PMGSY) in strengthening rural connectivity in India in detail. Write very briefly about social audit of MGNREGS. 8 + 2

Unit-IV: Ganga Delta

7. Write a short note on the Quaternary evolution of the Bengal Basin. Make a critical assessment of Bagchi's scheme of geomorphic classification of the Indian part of the Ganga delta. 3+7
8. What do you understand by time-velocity asymmetry of the Sundarban estuaries? What are the causes and consequences of decaying channels in the Moribund delta region? 3+7

M.A/M.Sc. (2nd Year) 4th Semester Examination - 2023

Subject: Geography

Module - 402

Fluvial Geomorphology -1 (Special paper)

GEO/DCE/TH/402A

Full marks: 40

Time: Two hours

(Answer any four questions selecting one from each unit)

Unit- I: Concept and Approaches

1. Elucidate the role of process-response system in understanding the evolutionary character of fluvial landforms. Give an account of the spatio-temporal dimensions of decay equilibrium and steady state equilibrium. 7+3= 10
2. Find out the relationship between stream power and sediment entrainment processes of an alluvial channel. State different types of flows and hydrological response of a river basin. 5+5=10

Unit-II: River hydrology

3. What are the differences between uniform and non-uniform flow? Write a note on velocity distribution across and along an open channel. 3+7=10
4. What is meant by sediment budget? Elucidate the major controlling factors of river erosion and transportation. 3+7=10

Unit-III: Channel morphology

5. Write down the key factors controlling channel morphology. Mention the morphological characteristics of a meander channel. 6+4=10
6. Classify the landforms associated with channel bed. Highlights the impacts of environmental change on channel metamorphosis. 5+5= 10

Unit-IV: Basin quantification

7. Elaborate empirical classification of drainage patterns with proper illustrations. How does discordant drainage pattern differs from concordant drainage pattern?. 6+4=10.
8. State the significance of different types of relief parameters in understanding hydromorphological characteristics of a river basin. How does GIS help in drainage basin planning and management?. 6+4=10

M.A/M.Sc. (2nd Year) 4th Semester Examination - 2023

Subject: Geography

Module - GEO/DCE/TH/403A

Fluvial Geomorphology -2 (Special paper)

Full marks: 40

Time: Two hours

(Answer any four questions selecting one from each unit)

Unit-I: Fluvial landforms

1. Discuss the favorable conditions for alluvial fan development. Highlight the geomorphic characteristics of the Kosi megafan. 4+6=10

2. How are flood plains formed? What are the various ways of floodplain management and restoration? 3+7=10

Unit-II: Fluvial hazards

3. Critically examine the role of big dams in controlling floods in West Bengal. Discuss the flood management strategies with special reference to West Bengal. 4+6=10

4. How are human activities responsible for river pollution in India? Discuss the impacts of riverbank erosion on human displacement with special reference to the Ganga. 4+6=10

Unit-III: Anthropogenic impacts on river health

5. Discuss the possible effects of construction of canals on hydrological and morphological behavior of a river basin. 5+5=10

6. How does climate change influence fluvial systems? Give a detailed account of impact of climate change on stream flow characteristics. 3+7= 10

Unit-IV: Basin management strategies

7. What is integrated approach to watershed management? Discuss the major principles of watershed management with reference to India. 3+7=10

8. What is transboundary river? Give an account on international water sharing issues with special reference to India and Bangladesh. 3+7 =10

M.A/M.Sc. 4th Semester Examination 2023

Subject: Geography

Module: 404A (Practical)

Paper Code: GEO/DCE/PR/404A

(Fluvial Geomorphology - III)

Time: 4 hours

Full marks: 50

The figure in the margin indicates full marks.

Answer all questions

Unit-I: Drainage basin analysis

1. (a) What is meant by water budget? Prepare a water budget graph from the given data and interpret the result. 1+4

Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
P (mm)	10.6	14.80	25.70	38.60	102.7	210.74	318.10	328.25	175.50	80.90	26.30	8.85
PE (mm)	90.68	102.58	150.10	175.38	180.73	131.76	145.40	164.75	114.55	128.45	100.80	80.15
AE (mm)	35.54	48.38	50.57	60.68	120.95	131.76	145.40	164.75	114.55	110.25	85.29	56.39

Field Capacity: 200 mm

P: Precipitation

PE: Potential Evapotranspiration

AE: Actual Evapotranspiration

- (b) Justify the importance of stream ordering to understand the hydro-geomorphic characteristics of a drainage basin. Prepare a Stream Order map of given drainage basin using Strahler's method. 3+3

Unit II: Channel morphology analysis

2. (a) The following table shows distance wise depth of a representative channel cross section. Draw a cross profile of the representative channel using the given data and interpret the same. 5+2

Distance (m)	0	50	100	150	200	250	300	350	400	450	500	550	600
Depth (m)	0.00	7.00	9.00	14.00	35.00	3.00	27.00	24.00	20.00	15.00	9.00	4.00	0.00

- (b) Calculate incision ratio and assess the stability character at various transects of a representative channel using following data. 4

Transects	Bank height	Bank-full height
Transect A	10	6
Transect B	11	4
Transect C	15	9
Transect D	10	8
Transect E	12	10
Transect F	15	13
Transect G	14	8

(c) State different BEHI parameters of Rosgen (2001) to understand river bank erosion hazards of a channel. 3

Unit-III: Fluvial Hazard analysis

3. (a) The annual flood series for a river is available for 13 years. Estimate flood peaks with return periods of 50 and 100-years using Gumbel's method. 10

year	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1794	1975
Discharge (cumec)	3210	4000	1250	3300	2480	1780	1860	4130	3110	2320	2480	3405	1820

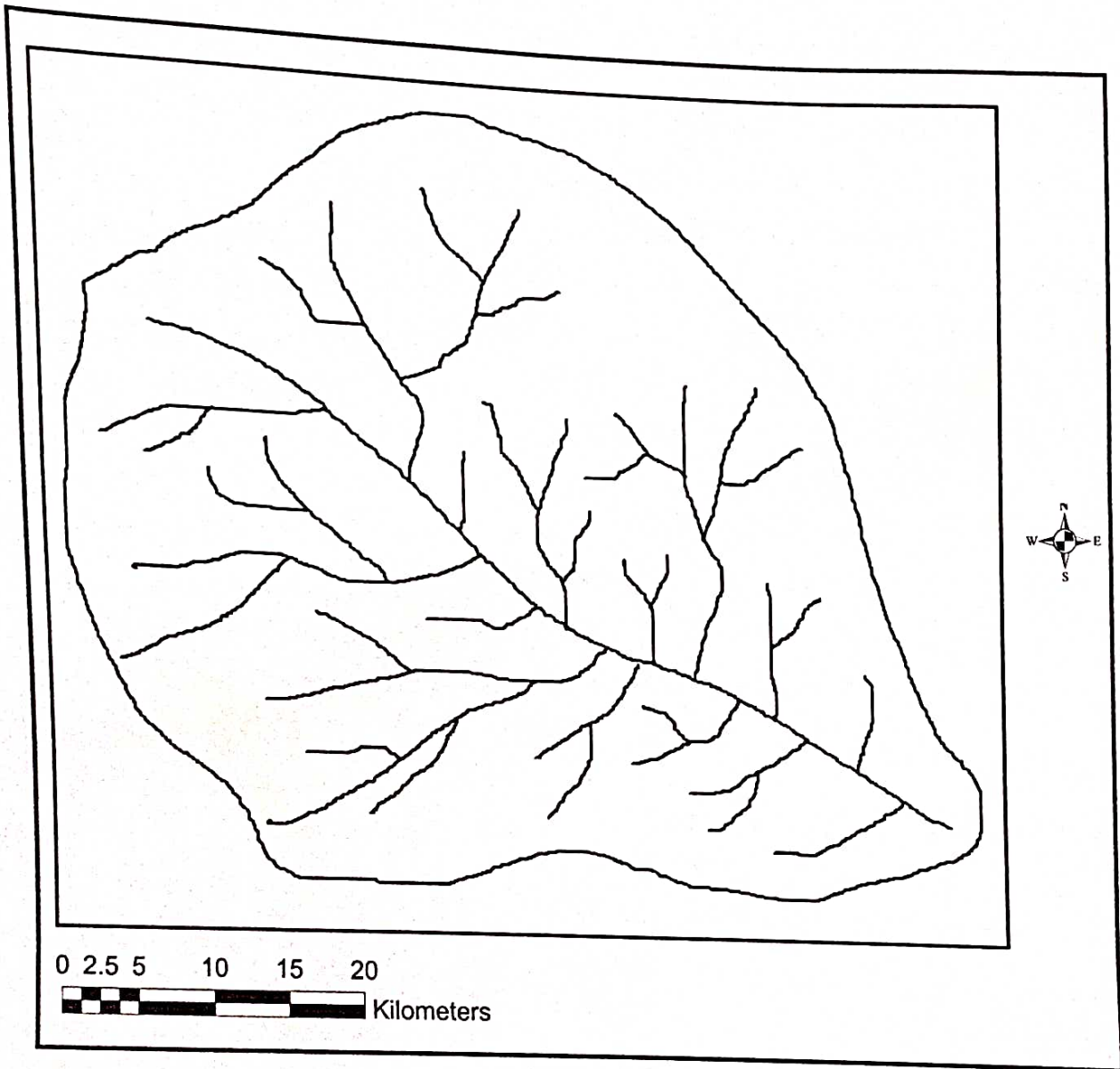
(b) Identify the riverbank erosion area from the given satellite images/maps and interpretate it. 5

4. Viva-voce and Laboratory Notebook: 5+5

3.a)

Return Period (Years)	Estimated Flood Peaks (XT)
50	5763.0614
100	6392.3047

1. (b)



DIAMOND HARBOUR WOMEN'S UNIVERSITY

M.A./M.Sc. 4th SEMESTER EXAMINATION 2023

Subject: Geography

Paper: GEO/DCE/TH/402C

Urban and Rural Planning and Development-I

Time: 2 hrs

Full Marks:40

*The figures in the margin indicate full marks
Answer any **four** questions selecting **one** from each Unit*

Unit I: Urban Geography: Concept and Approaches

1. Discuss the relationship between urbanization and 'Quality of Life'. What do you understand by urban social space? **7+3**
2. Enumerate the characteristics of urbanism in India. Differentiate between urbanization and urbanism. Mention the dimensions of Social Area Analysis of cities. **6+2+2**

Unit II: Aspects of Urban Geography

3. What are the indicators and method of calculation for Ecological footprint? How to reduce ecological footprint? **5+5**
4. Mention the types of crimes that occur in urban areas. Discuss the characteristics of urban gentrification. **4+6**

Unit III: Urban Governance, Policy and Management

5. Bring out the important features of Metropolitan Planning in India. What are the key differences between JNNURM and AMRUT? **7+3**
6. Give an overview of post-liberalisation policies on urban development. Discuss the significance of the 'sustainable city'. **7+3**

Unit-IV: Trends of Urbanisation in India

7. Discuss the objectives of Smart Cities Mission. Examine the relevance of smart city in urban development of India highlighting the challenges faced. **4+6**
8. Categorize built heritage of India on the basis of managerial agencies. Delineate how heritage tourism can be developed as an important driver for revenue generation through branding. **4+6**

DIAMOND HARBOUR WOMEN'S UNIVERSITY
M.A./M.Sc. 4th SEMESTER EXAMINATION 2023
Subject: Geography
Paper: GEO/DCE/PR/404C
URBAN AND RURAL PLANNING AND DEVELOPMENT-III

Time: 4 hrs

Full Marks: 50

The figures in the margin indicate full marks
Answer all questions

1. Draw residual map of selected blocks of South 24 Parganas district, West Bengal on the basis of the given data and interpret the diagram. 7+3

BLOCK NAME	AREA (SQ. KM.)	TOTAL POPULATION
CANNING 1	187.8653	304724
CANNING 2	214.9334	252523
MATHURAPUR 1	147.3003	195104
JAYNAGAR 1	131.0117	263151
JAYNAGAR 2	186.2512	252164
KULTALI	306.1816	229053
BASANTI	404.2074	336717
GOSABA	296.7257	246598
MATHURAPUR 2	227.4476	220839
KAKDWIP	252.7377	281963
SAGAR	282.1147	212037
NAMKHANA	370.6205	182830
PATHERPRATIMA	484.4808	331823

Source: Census of India, 2011.

2. Draw Lorenz Curve from the following data and interpret it. 3+2

INCOME (IN Rs.)	NUMBER OF PERSONS
1000 28	600 10
1200 38	800 22
1400 50	1200 38
1600 66	900 53
2000 86	1000 73
2800 120	500 100

3. Compute crop yield and concentration indices ranking co-efficient following Jasbir Singh's method and interpret it. 7+3

Sl. No.	Village / Tehsil	Rice		Wheat	
		% of Total Cropped area	Yield Kgs/ ha	% of Total Cropped area	Yield Kgs/ ha
1	Somaval	25	2750	53	3050
2	Navela	27	3100	57	3570
3	Dekati	24	2550	60	3200
4	Rozve	18	2275	62	2880
5	Amoni	21	2100	63	2500
6	Tehsil/ Kanpur Rural	23	2555	59	3040

4. Write in brief about the focus group method.

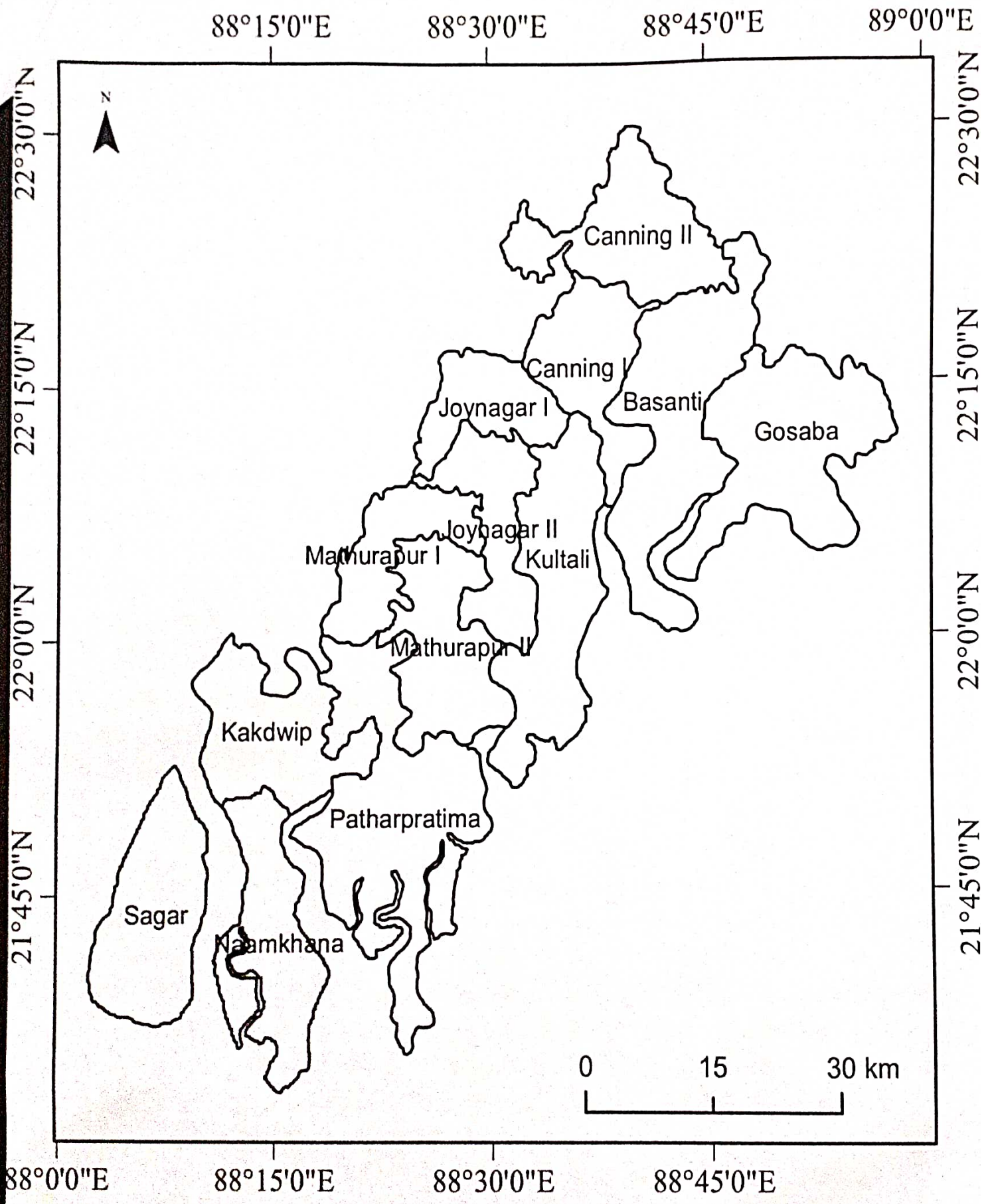
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5. What is user accuracy? Prepare a land use-land cover map based on the given satellite imagery using supervised classification.

2+8

6. Laboratory note book and viva.

5+5



DIAMOND HARBOUR WOMEN'S UNIVERSITY
M.A./M.Sc. 4th SEMESTER EXAMINATION 2023

Subject: Geography

Paper: GEO/DCE/TH/403C

Urban and Rural Planning and Development-II

Time: 2 hrs

Full Marks: 40

The figures in the margin indicate full marks
*Answer any **four** questions selecting **one** from each Unit*

Unit-I: Approaches to Rural Development and Planning

1. Discuss major approaches of rural development. Write a note on Michael Lipton's concept of urban bias. 7+3
2. Analyse the Gandhian model of rural development. What are limitations of planning at the Block and Gram Panchayat level. 7 + 3

Unit-II: Components and Actors of Rural Development

3. Discuss how the Pradhan Mantri Gram Sadak Yojana (PMGSY) has strengthened rural road connectivity? Write a brief note on National Rural Drinking Water Programme. 7 + 3
4. Make an assessment of the functioning of the Panchayati Raj Institutions (PRIs) as development planner and implementing agency. What are the strengths and limitations of Non-Governmental Organisations (NGOs) as an actor of rural development? 6 + 4

Unit-III: Sectoral Linkages and Initiatives for Rural Development

5. Discuss the important programmes taken up by the government for rural industrialisation in recent years. Briefly assess the contributions of the Dairy sector in the development of rural economy in India. 6 + 4
6. Analyse the major hurdles of implementation of the rural development policies and programmes. Discuss the role of cottage industries in securing rural livelihoods. 7+3

Unit-IV: Emerging Issues in Rural Planning and Development

7. What is gender mainstreaming? What are the different dimensions of empowerment? Explain how Community Driven Development (CDD) approach addresses empowerment of women in rural areas. 2 + 2 + 6
8. State highlights of any two ongoing rural development schemes in India dealing with environmental wellbeing. Discuss about the immediate and long term policy measures implemented for the revival of the rural economy from the pandemic phase. 3 + 7