

2023

**GEOGRAPHY — HONOURS**

**Paper : CC-5**

**(Climatology)**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**Category - A**

Answer *any five* questions (each within 50 words).

2×5

1. What is meant by 'ozone hole'?
2. What are aerosols?
3. What is meant by heat equator?
4. Define solar constant.
5. Define freezing nuclei.
6. What is Hadley cell?
7. What is the 'eye of a cyclone'?

**Category - B**

Answer *any four* questions (each within 150 words).

5×4

8. Discuss terrestrial heat balance.
9. Explain the concept of 'Greenhouse effect' on the atmosphere.
10. Distinguish between normal lapse rate and adiabatic lapse rate.
11. How does relative humidity differ from absolute humidity?
12. State the characteristics of a thunderstorm.
13. Which part of India receives rainfall in winter and why?

Please Turn Over

**Category - C**

Answer *any two* questions (each within 500 words).

14. What is 'inversion of temperature'? Discuss the different types of temperature inversion. 2+8
15. How are mid-latitude cyclones formed? Distinguish between warm and cold fronts. 6+4
16. Explain the process of condensation. Discuss the various forms of condensation. 5+5
17. Explain the monsoon circulation over the Indian subcontinent with special reference to jet stream. 10

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**GEOGRAPHY — HONOURS**

**Paper : CC-6**

**(Hydrology and Oceanography)**

**Full Marks : 50**

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as far as practicable.*

**Group - A**

Answer *any five* questions (each within 50 words).

2×5

1. What do you mean by 'basin hydrological cycle'?
2. What is vadose water?
3. What is perched aquifer?
4. What is meant by rainwater harvesting?
5. Explain in brief the porosity and permeability of rocks.
6. What are submarine canyons?
7. What is coral bleaching?

**Group - B**

Answer *any four* questions (each within 150 words).

5×4

8. What are the factors influencing the fluctuation of ground water?
9. What are the objectives of watershed management?
10. Write a short note on T-S diagram.
11. State the favourable conditions for the development of Artesian aquifers.
12. What do you mean by sustainable utilization of marine resources?
13. What are the major threats to coral reefs?

**Please Turn Over**

**Group - C**

Answer *any two* questions (each within 500 words).

10×2

14. Explain global hydrological cycle and point out its physical and biological significance.
  15. Discuss the various factors controlling surface run-off.
  16. Discuss the principles of rainwater harvesting in an urban area.
  17. Discuss the favourable conditions for the growth and development of different types of corals.
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## GEOGRAPHY — HONOURS

Paper : CC-7

Full Marks : 50

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.***Use of Scientific Calculators is Allowed in this Examination / Paper.**

## Group - A

Answer *any five* questions of the following.

1. Differentiate between nominal and ordinal measurements of data. 2
2. Which of these is a discrete variable and which is a continuous variable? 2  
(a) Temperature (b) Production of Tea (c) Population Density (d) Number of Water bodies in different CD blocks.
3. Given that the median of a series exceeds the mean by 5, use the relationship between mean, median and mode to determine by how much does the mode exceed this mean? 2
4. State any two properties of arithmetic mean. 2
5. The mean of seven months temperature is 15°C. Temperature of next month is 23°C, which is added to the above. What is the mean of these eight months temperature? 2
6. The probability of selecting a granite pebble randomly from a heap of 900 assorted pebbles is 0.18. What is the number of granite pebbles in the heap? 1+1
7. What is 'Stub' and 'Caption' in context of a table? Determine the variance of rainfall if the coefficient of variation of rainfall is 25% and mean is 60 mm. 1+1
8. Select a suitable method of calculating dispersion : 1+1  
(a) Frequency distribution with open ended class.  
(b) Comparison of variability of temperature and rainfall of a place.

Please Turn Over

(2)

**Group - B**

Answer *any four* questions of the following.

9. Prepare a frequency distribution table from the given data in Table - 1 and determine the percentage of villages with literacy rate between 75% and 85%. 3+2

**Table - 1 : Distribution of Villages based on Literacy Rate**

Literacy Rate (%)	Number of Villages
> 50	121
> 55	113
> 60	98
> 65	81
> 70	63
> 75	37
> 80	15
> 85	06
> 90	02
> 95	01

10. Compare the advantages of random and stratified sampling methods to collect primary data. 5
11. Compute the value of Spearman's Rank Correlation Coefficient between fertilizer and yield with the data in Table-2 and interpret the relationship between them. 4+1

**Table - 2**

Region	Fertilizer	Yield
A	Medium	Very Good
B	Very Low	Very Poor
C	Very High	Moderate
D	Low	Poor
E	High	Good

12. Calculate the Mean Deviation from the 10 years' rainfall data given as follows in cms : 5  
97, 100, 95, 85, 115, 112, 102, 106, 87 and 101.
13. What kind of distribution does a bell-shaped curve represent? Discuss any four properties of this distribution. 1+4

14. In an analysis of average hours of sunshine and average soil moisture examined for 9 months, it was found that  $\sum x = 50, \sum y = 100, \sum x^2 = 400, \sum y^2 = 1700, \sum xy = 800$ . Determine the Pearson's correlation coefficient 'r'. Test the hypothesis that the computed correlation coefficient is not significantly different from zero at 1% level of significance (i.e. average hours of sunshine and average soil moisture are not significantly associated). (Refer to Supplied Table A1 – Critical Value of Student's 't') 2+3

**Group - C**

Answer *any two* questions of the following.

15. Discuss the importance of Statistics in Geographical studies. Explain descriptive and analytical statistics with suitable examples. 2+8
16. (a) Define level of significance.
- (b) A random sample of 200 people revealed the following details regarding distribution of workers across different economic sectors by gender (Table-5). Using Chi-square test determine whether there is any relationship between gender and employment in specific sectors and whether the relationship is significant at 1% level of significance. (Refer to Supplied Table A2 — Critical Values of Chi-Square). 2+8

**Table-5 : Employment across Economic Sectors by Gender**

Gender	Primary Sector	Secondary Sector	Tertiary Sector	Total
Female	24	10	15	49
Male	9	17	25	51
Total	33	27	40	100

17. (a) What do you mean by cyclic and seasonal trend in time series data analysis?
- (b) On the basis of data provided in Table - 6, draw a time series graph to show the milk production in India and compute and draw the trend by four year moving average. 2+(2+6)

**Table-6 : Milk Production (MMT) in India**

Year	Milk Production (MMT)
2011-12	128
2012-13	132
2013-14	138
2014-15	146
2015-16	155
2016-17	165
2017-18	176
2018-19	188
2019-20	198
2020-21	210
2021-22	221
2022-23	231

18. (a) From the following table, find the regression equation required for estimation of y.  
(b) What will be the expected road density if the relative relief is 500 mts?

Table

Grid No.	Relative Relief (in mts.)	Road density (Km/km <sup>2</sup> )
1	880	
2	420	0.0
3	600	0.5
4	518	0.5
5	120	0.25
6	120	3.5
7	460	1.75
8	260	0.25
9	80	2.25
10	240	2.0
		1.5



Q. No. 14.

Table : A1

Critical Values of Student's t					
Significance level (one-tailed)					
	0.05	0.025	0.01	0.005	0.00005
Degrees of freedom	Significance level (two-tailed)				
	0.1	0.05	0.02	0.01	0.001
1	6.31	12.71	31.82	63.66	636.62
2	2.92	4.30	6.97	9.93	31.60
3	2.35	3.18	4.54	5.84	12.92
4	2.13	2.78	3.75	4.60	8.61
5	2.01	2.57	3.37	4.03	6.86
6	1.94	2.45	3.14	3.71	5.96
7	1.89	2.37	3.00	3.50	5.41
8	1.86	2.31	2.90	3.35	5.04
9	1.83	2.26	2.82	3.25	4.78
10	1.81	2.23	2.76	3.17	4.59

Q. No. 16(b)

Table : A2

Critical Values of CHI-Square					
Values of $\chi^2$ with probability P of being exceed in random smapling					
v = number of degrees of freedom.					
P \ v	0.20	0.10	0.05	.02	0.01
1	1.64	2.71	3.84	5.41	6.63
2	3.32	4.61	5.99	7.82	9.21
3	4.64	6.25	7.81	9.84	11.34
4	5.90	7.78	9.49	11.67	13.28
5	7.29	9.24	11.07	13.39	15.09
6	8.56	10.64	12.59	15.03	16.81
7	9.80	12.02	14.07	16.62	18.48
8	11.03	13.36	15.51	18.17	20.09
9	12.24	14.68	16.92	19.68	21.67
10	13.44	15.99	18.31	21.16	23.21

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**GEOGRAPHY — HONOURS**

**Paper : SEC-A-1 and SEC-A-2**

*The figures in the margin indicate full marks.*

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as far as practicable.*

**Paper : SEC-A-1**

**(Coastal Management)**

**Full Marks : 80**

**Category - A**

Answer *any ten* questions (each within 50 words).

2×10

1. What do you mean by coastal 'morphodynamics'?
2. What is 'longshore current'?
3. What is the effect of sand encroachment in coastal environment?
4. State the difference between 'high tide line' and 'low-tide line'.
5. Differentiate between 'swash' and 'backwash'.
6. What is meant by 'bioturbation structure'?
7. State any two causes of coastal pollution.
8. Why 'estuarine sedimentation occurs'?
9. What is 'bio-tidal accretion'?
10. What is 'dune migration'?
11. State two impacts of mining on coastal environment.
12. What is 'tidal bore'?
13. What do you mean by 'Shallow Water Wave'?
14. State the significance of 'Exclusive Economic Zone'.

Please Turn Over

**Category - B**

Answer *any six* questions (each within **150** words).

5×6

15. Why coastal management is very important in the context of climate change?
16. Discuss the impacts of tourism on coastal environment with examples.
17. State the different causes of coastal flooding and the health risks associated with it.
18. Write a short note on different measures that may be designed for management of coastal dune degradation.
19. Comment on the role of different land-reclamation activities in the degradation of coastal zones.
20. Explain the problems of salt manufacturing in coastal environment.
21. What are the negative impacts of oil spills on coastal environment?
22. Write a short note on 'Coastal Regulation Zone Act of India, 1991'.

**Category - C**

Answer *any three* questions (each within **500** words).

10×3

23. Explain the different components of a coastal zone with the help of suitable diagrams.
24. Explain with examples the role of tides in shaping the coastal landforms.
25. Discuss the management strategies needed for arresting the coastal erosional hazards.
26. Classify the different causes and agents of coastal pollution.
27. Explain the principles of integrated coastal zone management.

**Paper : SEC-A-2  
(Tourism Management)**

**Full Marks : 80**

**Category - A**

Answer *any ten* questions (each within 50 words).

2×10

1. What is meant by 'Niche Tourism'?
2. Who are called 'Tour Operators'?
3. What is 'Palace on wheels'?
4. What is 'Chardham circuit'?
5. Mention two benefits of a Group Tour.
6. Mention any two adventure tourism sites in India.
7. Mention any two tourist destinations with historical importance.
8. What is 'Tourism Product'?
9. What does 'TIA' stand for?
10. Define Ecotourism.
11. Distinguish between 'Traveller' and 'Tourist'.
12. What is a 'Heritage walk'?
13. Mention any two elements of destination marketing.
14. Define 'Accomodation'.

**Category - B**

Answer *any six* questions (each within 150 words).

5×6

15. What is the significance of Medical Tourism?
16. Why is 'Alternative Tourism' gaining popularity?
17. How is environment of Western Himalaya affected by tourism?
18. Write a brief note on 'Cultural Tourism'.

**Please Turn Over**

19. State the relationship between 'recreation' and 'leisure'.
20. What is meant by 'Tourism infrastructure'?
21. What is the role of a guide in tourism industry?
22. Why is Jaipur an important tourist destination?

**Category - C**

Answer *any three* questions (each within 500 words).

10×3

23. Discuss the importance of Sustainable tourism with reference to its principles.
  24. How does information technology play a vital role in tourism?
  25. Discuss the impact of globalisation on tourism industry in the context of future trends and challenges for India.
  26. Discuss with examples the role of destination marketing and tour operations planning in promotion of international tourism.
  27. Make a low budget plan to visit Goa.
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