2018

GEOGRAPHY (Honours)

Sixth Paper

(Practical)

[New Syllabus]

Set - 1

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify megascopically the given five specimens of rocks and minerals and point out any two characteristics of identification.                    $5 \times 2 = 10$

2. The marks obtained by the students in an Examination are shown in the following table.

| 85 | 58 | 70 | 65 | 88 | 84 | 80 | 74 | 71 | 68 |
|----|----|----|----|----|----|----|----|----|----|
| 49 | 96 | 76 | 88 | 39 | 69 | 38 | 63 | 42 | 72 |
| 77 | 89 | 47 | 34 | 89 | 75 | 89 | 77 | 67 | 94 |
| 82 | 56 | 85 | 74 | 89 | 96 | 40 | 43 | 72 | 86 |
| 90 | 87 | 79 | 67 | 69 | 81 | 93 | 78 | 84 | 76 |

(a) Prepare a cumulative frequency distribution table based on the given data.                    4

(b) Draw ogive (less than type) and show $D_8$ and $P_{59}$ on the curve.                    2+2+2

P.T.O.

( 2 )

3. Average and SD of a sample of size 100 are 40 and 10 respectively for the same set (N=100). Now if a particular value of 30 is replaced by 3, find out the new value of Average and SD.                3+4=7

4. A departmental store gives in-service training to its salesman which is followed by a test. It is considering whether it should terminate the service of any salesman who does not do well in the test. The following data give the test scores and sales made by nine salesman during a certain period :

| Test Scores | 14 | 19 | 24 | 21 | 26 | 22 | 15 | 20 | 19 |
|---|---|---|---|---|---|---|---|---|---|
| Sales ('00) Rs. | 31 | 36 | 48 | 37 | 50 | 45 | 33 | 41 | 39 |

(a) Calculate the correlation coefficient between the test scores and sales.

(b) Does it indicate that the termination of services of low test scores is justified.

(c) The coefficient of correlation is independent of : (i) change of scale only, (ii) change of origin only, (iii) both change of scale and origin, (iv) none of the above.                10+2+1=13

5. Obtain the line of regression for the following data :

$x$ : 1    2    3    4    5    6    7    8    9

$y$ : 9    8    10    12    11    13    14    16    15

5

6. Laboratory Notebook and Viva-voce.                2+3=5

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2018

GEOGRAPHY (Honours)

Sixth Paper

(Practical)

[New Syllabus]

Set - II

Full Marks : 50                Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify megascopically the given five specimens of rocks and minerals and point out any two characteristics of identification.                5×2=10

2. Marks in statistics if 60 students are given in the following table :

| Marks : | <10 | <20 | <30 | <40 | <50 | <60 | <70 |
|---|---|---|---|---|---|---|---|
| frequency : | 5 | 13 | 24 | 39 | 52 | 58 | 60 |

(a) Prepare a frequency distribution table and determine mode.

(b) Define Median                3+2+2=7

P.T.O.

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3. Arithmetic Mean of the following frequency distribution is 3.68 and $\sum f_i = 100$. Find the missing frequency :

$x_i$: 0  1  2  3  4  5  6  7

$f_i$: 2  8  13  ?  29  ?  10  3

2+2=4

4. The following table shows the frequency distribution of 200 workers according to weekly income.

| Weekly income in Rs. | 201-250 | 251-300 | 301-350 | 351-400 |
|---|---|---|---|---|
| No. of Workers | 15 | 31 | 55 | 41 |

| Weekly income in Rs. | 401-450 | 451-500 | 501-550 | |
|---|---|---|---|---|
| No. of Workers | 32 | 20 | 6 | |

(a) Determine the standard deviation (SD) of weekly income.

(b) Calculate approximately the percentage of workers having weekly income between the Limit of Mean $\pm$ SD.

6+2=8

5. Calculate Pearson's coefficient of correlation from the following data.

Fertilizer used (metric tons) :  15  18  20  24  30  35  40  50

Productivity (metric tons) :  85  93  95  105  120  130  150  160

10

6. (a) From the following data find out the regression equation

Age in years :  2  3  4  5  6  7  9

Weight in kg. :  6  7  9  12  14  17  22

(b) Find out the probable weight of a child of 8 years old.

5+1=6

7. Laboratory Note Book and Viva-voce.       2+3=5

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P - III (1+1+1)H/Pr/18 (N)

2018

GEOGRAPHY (Honours)

Sixth Paper

(Practical)

[New Syllabus]

Set - III

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify megascopically the given (5) five specimens of rocks and minerals (megascopic study) and point out any two characteristics of identification.          5×2=10

2. The following are the number of replacement parts used in a mill in 50 consecutive weeks for a certain group of similar machines :

| 46 | 43 | 49 | 41 | 45 | 52 | 47 | 57 | 41 | 52 |
|----|----|----|----|----|----|----|----|----|----|
| 51 | 58 | 45 | 36 | 56 | 44 | 61 | 72 | 54 | 43 |
| 45 | 65 | 47 | 49 | 42 | 48 | 53 | 48 | 42 | 48 |
| 38 | 45 | 58 | 50 | 55 | 45 | 43 | 68 | 63 | 48 |
| 47 | 44 | 42 | 47 | 43 | 49 | 46 | 46 | 49 | 47 |

(a) Construct a frequency distribution with a uniform class interval of 5.

P.T.O.

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(b) Draw ogive (less than type) and show $Q_3$ and $P_{46}$ on the curve.

(c) Define ogive.                 4+2+2+2+2=12

3. The numbers 3.2, 5.8, 7.9 and 4.5 have frequencies X, (X+2), (x–3) and (x+6) respectively. If the arithmetic mean is 4.876, find the value of $x$.                 3

4. In a small town, a survey was conducted is respect of profits/loss made by retail shops. The following results were obtained.

| Profit ('000)Rs. | –3 to –2 | –2 to –1 | –1 to 0 | 0 to 1 | 1 to 2 | 2 to 3 | 3 to 4 | 4 to 5 | 5 to 6 |
|---|---|---|---|---|---|---|---|---|---|
| No. of Shops | 5 | 10 | 20 | 29 | 45 | 42 | 28 | 15 | 6 |

(a) Calculate the average profit made by a retail shop.

(b) Calculate the total profit made by all shops.

(c) Calculate the coefficient of variation of earnings.                 2+1+7=10

5. 9 Competitors on paper presentation were marked by the two judges A and B as follow :

| Competitors | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Marks by Judge A | 45 | 60 | 32 | 46 | 32 | 34 | 58 | 56 | 47 |
| Marks by Judge B | 51 | 52 | 38 | 54 | 50 | 39 | 62 | 58 | 37 |

(a) Find Spearman's rank correlation coefficient.

(b) The method of least squares dictates that we choose a regression line where the sum of the square of deviations of the points from the lie is : (choose the correct one)

(i) Maximum        (ii) Minimum

(iii) Zero          (iv) Positive

(c) In simple linear regression, the numbers of unknown constants are :
(i) One, (ii) Two , (iii) Three, (iv) Four.
                8+1+1=10

6. Laboratory Note Book and Viva-voce.          2+3=5

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Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

Answer *all* questions.

1. Prepare a questionnaire schedule with double and multiple option answer types for assessment for people's perception on the awareness of dengue in North Bengal. What are one-off sample surveys ?                    8+2=10

2. (a) Prepare a rating Curve for a River on the basis of the following data obtained from a stream gauging and discharge measuring station (Gauge height or water level in feet and discharge in '000 Cusec). Interpret the curve explaining particularly the significant verification of gradient of the curve.                    8+2=10

| Gauge Height (feet) | 5.20 | 7.50 | 10.30 | 15.20 | 23.00 | 26.50 | 36.20 | 40.50 |
|---|---|---|---|---|---|---|---|---|
| Discharge (Cusec) | 0.110 | 0.155 | 0.220 | 0.270 | 0.350 | 0.390 | 0.950 | 1.400 |

P.T.O.

9/36 - 1200

1. Prepare a questionnaire for assessment of people's perception on the impact of flood on their livelihood.  **10**

2. (a) The distributions of area under Eight different crops in the state of West Bengal for the year of 2001 and 2011 are displayed below. Using Weaver's method, identify the significant crops of the state for these two census years.

5+5=10

| Crops | | Rice (Aman) | Wheat | Maize | Rapeseed and Mustard | Jute | Mesta | Sugarcane | Potato |
|---|---|---|---|---|---|---|---|---|---|
| Area (in thousand hectares) | 2011 | 3362.1 | 316.8 | 88.6 | 410.8 | 568.5 | 6.3 | 15.0 | 408.8 |
| | 2001 | 3639.5 | 426.0 | 35.3 | 436.0 | 613.0 | 10.9 | 21.6 | 299.7 |

Source : Economic Review, 2011-12, W.B.

P.T.O.

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( 2 )

| Gauge Height (feet) | 41.80 | 42.90 | 43.00 | 44.50 | 45.00 | 45.50 | 45.80 |
|---|---|---|---|---|---|---|---|
| Discharge (Cusec) | 1.850 | 2.210 | 2.550 | 3.100 | 3.200 | 3.400 | 3.500 |

(b) Compute and draw a Lorenz Curve on the basis of the following set of data. Interpret the diagram.  8+2=10

| Name of the CD Block | Total Popula-tion | Child Popula-tion | Name of the CD Block | Total Popula-tion | Child Popula-tion |
|---|---|---|---|---|---|
| Joypure | 111715 | 20406 | Puncha | 108045 | 15845 |
| Purulia-II | 142700 | 24080 | Arsha | 129108 | 22048 |
| Para | 174596 | 29038 | Jhalda-I | 115493 | 19908 |
| Raghu-nathpur-II | 99152 | 216221 | Jhalda-II | 123696 | 22795 |
| Raghu-nathpur-I | 103620 | 14821 | Baghmundi | 112388 | 18882 |
| Nathuria | 90632 | 13348 | Balarampur | 118071 | 19719 |
| Saathury | 69546 | 10150 | Barabazar | 146917 | 23473 |
| Kashipur | 186980 | 26103 | Manbazar-I | 127609 | 18709 |
| Hura | 127423 | 19232 | Manbazar-II | 85160 | 11610 |
| Purulia-I | 125261 | 31137 | Bundwan | 83673 | 12500 |

3. Draw section along the given line on the geological map and interpret the map under the heads of :

    (a) Geological structure.

    (b) Topography and its relation with the underlying structure.  10+2½+2½=15

4. Laboratory Notebook and Viva-voce.  3+2=5

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(b) Measure the spatial distribution pattern of Settlement of the given 5' × 5' quadrant with 36 settlement patches by computing Nearest Neighbour Index (NNI)    10

| No. of Settlement | Name of Settlement | No. of Settlement | Name of Settlement |
|---|---|---|---|
| 1. | Pukhuriya | 19. | Namosol |
| 2. | Barachireka | 20. | Laujora |
| 3. | Madhabpur | 21. | Kulani |
| 4. | Telidih | 22. | Muchidih |
| 5. | Banidih | 23. | Chamribad |
| 6. | Hatiyadih | 24. | Amtanr |
| 7. | Kankidih | 25. | Beldih |
| 8. | Palashdih | 26. | Bordih |
| 9. | Patkadih | 27. | Rakhdih |
| 10. | Penada | 28. | Bariadah |
| 11. | Chhota Bangurda | 29. | Baliyagoratola |
| 12. | Dimudih | 30. | Dangdung |
| 13. | Goradih | 31. | Seldih |
| 14. | Sargi Baram | 32. | Dangar |
| 15. | Baram | 33. | Andharijhor |
| 16. | Dundu | 34. | Pukhuritola |
| 17. | Jagidih | 35. | Namo-Gagiburu |
| 18. | Chamidih | 36. | Gagiburu |

3. (a) Draw a geological section along the line CD on the given map and interpret the same on the geological succession.

(b) Calculate the amount of true dip of bedding planes of a bed with the help of the following informations :

(i) Apparent Dip direction : N 20°30′E

(ii) Division length along the Section Line between two successive strikelines of 400 feet and 600 feet is 1.3″.

(iii) Scale of the geological map 1″ to 1000 feet.

10+2½=12½

4. Laboratory Notebook and Viva-voce.    3+2=5

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Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

Asnwer *all* questions.

1. Prepare a questionnaire schedule with double and multiple answer types for assessment of people's perception on increasing road accidents. Distinguish between house and household.                    8+2=10

2. (a) Prepare Climographs (after Taylor) for two stations Winnipeg and Sydney from the given data and comment on the climatic character of these two areas.

4+4+2=10

P.T.O.

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**Table**

Wetbulb Temperature and Relative Humidity of Winnipeg and Sydney, 1930

| Month | Wet bulb. Temperature (°F) | | Relative Humidity (%) | |
|---|---|---|---|---|
| | Winnipeg | Sidney | Winnipeg | Sidney |
| January | – 3.63 | 64.76 | 97.64 | 68.76 |
| February | 2.86 | 67.64 | 98.62 | 73.76 |
| March | 22.64 | 62.63 | 97.00 | 76.30 |
| April | 35.64 | 60.06 | 84.76 | 78.06 |
| May | 45.86 | 56.86 | 73.82 | 77.39 |
| June | 59.95 | 53.87 | 68.64 | 74.82 |
| July | 61.24 | 49.36 | 73.00 | 75.65 |
| August | 56.24 | 52.63 | 76.46 | 72.00 |
| September | 54.83 | 54.06 | 82.41 | 68.36 |
| October | 40.00 | 57.06 | 75.06 | 65.07 |
| November | 25.25 | 61.64 | 92.34 | 63.04 |
| December | 16.31 | 64.34 | 93.76 | 65.76 |

*Data Source : Miller, 1931*

(b) Find out the areas of relative Concentration of Literate population with the help of the given data by computing Location Quotient. Display the Nature of concentration on the given map (Map-I) and interpret it.

4+4+2=10

**Table**

Distribution of Total Population and Literate Population of Bankura District, 2011

| CD Block | Total Popula-tion | Literate Popula-tion | CD Block | Total Popula-tion | Literate Popula-tion |
|---|---|---|---|---|---|
| Saltora | 13580 | 28008 | Indus | 169783 | 47497 |
| Mejhia | 86188 | 19953 | Kotulpur | 188775 | 58194 |
| Gangajalghati | 180974 | 43224 | Joypur | 156920 | 44863 |
| Chhatna | 195038 | 44616 | Vishnupur | 156822 | 38210 |
| Indpur | 156522 | 36129 | Onda | 252984 | 60072 |
| Bankura-I | 107685 | 26882 | Taldangra | 147893 | 39162 |
| Bankura-II | 140864 | 38656 | Simlipal | 143838 | 35800 |
| Barjora | 202049 | 53892 | Khatra | 117030 | 30433 |
| Sonamukhi | 158697 | 38393 | Haribandh | 83834 | 17953 |
| Patrasayar | 184070 | 44874 | Ranibandh | 119089 | 28996 |
| Raipur | 171377 | 44543 | Sarenga | 106808 | 29663 |

*Data Source : DCH, Bankura, 2011 (XII-B)*

3. Draw a Section along the given line AB on the geological map and interpret the map under the following heads :

(a) Succession of beds.

(b) Topography and its relation to underlying structure.     10+2½+2½=15

4. Laboratory Notebook and Viva-voce.     3+2=5

P - III (1+1+1)H/Pr/18 (N)

2018

GEOGRAPHY (Honours)

Eighth Paper

(Practical)

[New Syllabus]

Set - I

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Distinguish between active remote sensing and passive remote sensing.                                  2

2. What are the major limitations of remote sensing ?
                                                        2

3. What do you mean by EMR ?              2

4. Bring out the salient features of Geostationary orbits.
                                                        2

5. Write a very short note on the importance of standard FCC.                                            2

6. State the components of GPS.            2

7. Briefly express your views on the concept of overlay functions in G.I.S.                                    2

P.T.O.

9/42 - 1200

( 2 )

8. What does LISS stand for ?                    1

9. Field Report and viva-voce on Field Report.
                                          20+10=30

10. Laboratory Note Book and Viva-voce.    2+3=5

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Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Mention the different stages of remote sensing.    2

2. What are the major advantages of remote sensing ?
                                          2

3. Make a brief note on EMS (Electro Magnetic Spectrum).    2

4. Mention the spectral bands and the respective band widths for LISS III multispectral sensor.    2

5. Distinguish between raster data and vector data.    2

6. What do you mean by IFOV ?    2

7. Write a short note on the application of GPS.    2

8. What is the full form of 'NAVSTAR' ?    1

P.T.O.

9/43 - 1200

### ( 2 )

9. Field Report and viva-voce on Field Report.

20+10=30

10. Laboratory Note Book and Viva-voce.    2+3=5

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Full Marks : 50                     Time : Four Hours

*The figures in the margin indicate full-marks.*

1. What do you mean by band ?                     2

2. Write a very short note on 'spectral signature'.    2

3. Mention the major categories of platforms in remote sensing and give an example of each of them.    2

4. Distinguish between geosynchronous and sunsynchronous orbits.    2

5. Write a short note on spatial resolution.    2

6. Write down the major components of GIS.    2

7. What is the role of Ground stations (Control Segment) in proper functioning of GPS ?    2

8. What is meant by pixel ?    1

P.T.O.

9/44 - 1200

( 2 )

9. Field Report and viva-voce on Field Report.

20+10=30

10. Laboratory Note Book and Viva-voce.  2+3=5

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Full Marks : 50  Time : Four Hours

*The figures in the margin indicate full marks.*

1. (i) Record the readings from the Fortin's barometer after calibrating the instrument properly.

(ii) Calculate the current air pressure in metric SI Unit.  3+2=5

2. (i) Interpret the condition of sky over Indian sub-continent from the given weather map of India with suitable illustrations.

(ii) Predict the possible forthcoming weather phenomena as revealed by the conditions of sky in the given map.  7+3=10

3. (i) Prepare a thematic map of drainage networks and water bodies from the standard FCC satellite imagery supplied to you.

P.T.O.

9/48 - 1200

( 2 )

(ii) Note the salient features of drainage networks and water bodies of the area covered by the given satellite image with the techniques of visual interpretation. 7+3=10

4. You are given a scanned photo of a SOI Toposheet of 1:50,000 scale.

(i) Import the map to the ILWIS software platform as raster image and save it to a specified folder within a local disk with your Roll & No (without space in between) as filename.

(ii) Create a coordinate system file with reference to the following geodetic parameters on which the SOI Toposheet has been embedded :

| | |
|---|---|
| Projection | : Lambert Conformal Conic |
| Ellipsoid | : Everest (India 1956) |
| Datum | : Indian (India, Nepal) |
| False Easting | : 0 |
| False Northing | : 0 |
| Central Meridian | : 80°E |
| Central Parallel | : 24°N |
| Standard Parallel 1 | : 35°N |
| Standard Parallel 2 | : 12°N |

( 3 )

(iii) Create an alternative coordinate system file with reference to the geodetic parameters on which the output of the geo-referenced map will be generated. The output map will be prepared on :

| | |
|---|---|
| Projection | : UTM (Zone 42) |
| Ellipsoid | : WGS 84 |
| Datum | : WGS 1984 |

(iv) Transfer the coordinates of at least four known points from Lambert Conformal Conic to UTM and record it for being used as tie points.

(v) Generate a geo-referenced map on UTM Projection and note down the coordinate of the given point x on the map.

[Note : *you will be allowed a maximum of 20 minutes to complete answering Q. No. 4*]. 2+2+2+2+2=10

5. (i) Insert the following dataset in a spreadsheet on MS Excel and save it to a specified folder within a local disk with your Roll & No (without space in between) as filename.

P.T.O.

9/48 - 1200

( 4 )

| Financial Year | Per Capita Net State Domestic Product-Statewise (Rs.) | | |
| --- | --- | --- | --- |
| | Andhra Pradesh | Arunachal Pradesh | Assam |
| 2001-02 | 18573 | 17664 | 13059 |
| 2002-03 | 19434 | 17124 | 14421 |
| 2003-04 | 21931 | 19322 | 15487 |
| 2004-05 | 25959 | 26721 | 16782 |
| 2005-06 | 28223 | 28171 | 18396 |
| 2006-07 | 32961 | 30132 | 19737 |
| 2007-08 | 39780 | 34466 | 21290 |
| 2008-09 | 44376 | 39726 | 24099 |
| 2009-10 | 50515 | 51068 | 28383 |

*e : Reserve Bank of India, 2017*

(ii) Calculate the Median values of per capita net state domestic product of the three Indian States for the decade of 2001-2010.

(iii) Which among the three states experiences maximum deviation of per capita net domestic product in the decade of 2001-2010 ? Answer by calculating the Standard Deviation for each state.

(iv) Prepare a line graph to represent the above data and label it properly using MS excel chart layout options.

[Note : *You will be allowed a maximum of 20 minutes to complete answering Q. No. 5*]    2+2+3+3=10

6. Laboratory Note Book and Viva-voce.    2+3=5

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Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. (i) Record the readings from the given hygrometer.

   (ii) Calculate the humidity of ambient air and comment on it.    3+2=5

2. (i) Interpret the wind condition over Indian sub-continent from the given weather map of India with suitable illustrations.

   (ii) Predict the possible forthcoming weather phenomena as revealed by the wind conditions in the given map.    7+3=10

3. (i) Prepare a thematic map of vegetation coverage from the standard FCC satellite imagery supplied to you.

   (ii) Note the spatial pattern of vegetation cover on the area covered by the given satellite image with the techniques of visual interpretation.    7+3=10

P.T.O.

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( 2 )

4. You are given a digital weather map in bitmap image format.

(i) Import the map to the ILWIS software platform as rater image and save it to a specified folder within a local disk with your Roll & No (without space in between) as filename.

(ii) Create a coordinate system file with reference to the following geodetic parameters on which the given weather map has been embedded :

Projection : Orthographic

Ellipsoid : N/A

Datum : N/A

False Easting : 0

False Northing : 0

Central Meridian : 170°E

Central Parallel : 40°S

(iii) Create an alternative coordinate system file with reference to the geodetic parameters on which the output of the geo-referenced map will be generated. The output map will be prepared on :

Projection : UTM (Zone 59)

Ellipsoid : WGS 84

Datum : WGS 1984

( 3 )

(iv) Transfer the coordinates of at least four known points from Orthographic to UTM projection system and record it for being used as tie points.

(v) Generate a geo-referenced map on UTM Projection and note down the coordinates of the given point x on the map.

[Note : *You will be allowed a maximum of 20 minutes to complete answering Q. No. 4*].

2+2+2+2+2=10

5. (i) Insert the following dataset in a spreadsheet on MS Excel and save it to a specified folder within a local disk with your Roll & No (without space in between) as filename.

| Year | INDIA'S FOREIGN TRADE (RUPEES BILLION) | | | |
| | Exports | | Imports | |
| | Oil | Non-Oil | Oil | Non-Oil |
|---|---|---|---|---|
| 2001-02 | 101.07 | 1989.11 | 667.70 | 1784.30 |
| 2002-03 | 124.69 | 2426.68 | 853.67 | 2118.39 |
| 2003-04 | 163.97 | 2769.69 | 945.20 | 2645.88 |
| 2004-05 | 314.04 | 3439.35 | 1340.94 | 3669.71 |
| 2005-06 | 515.33 | 4048.85 | 1946.40 | 4657.69 |
| 2006-07 | 845.20 | 4872.59 | 2585.72 | 5819.35 |
| 2007-08 | 1141.92 | 5416.72 | 3206.55 | 6916.57 |
| 2008-09 | 1233.98 | 7173.57 | 4199.68 | 9544.68 |
| 2009-10 | 1328.99 | 7126.35 | 4116.49 | 9520.86 |

Source : Reserve Bank of India, 2017

P.T.O.

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(ii) Calculate the net balance in foreign trade of Oil and Non-Oil products in India for each financial year separately.

(iii) Calculate the Standard Deviation for exports and imports of Oil and Non-Oil products over the decade of 2001-2010.

(iv) Show the trend of relationship between the exports of Non-oil products and imports of Oil products in foreign trade of India over the decade of 2001-2010. Label them properly using MS excel chart layout options.

[Note : *You will be allowed a maximum of 20 minutes to complete answering Q. No. 5*]  2+2+3+3=10

6. Laboratory Note Book and Viva-voce.  2+3=5

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P - III (1+1+1)H/Pr/18 (N)

2018

GEOGRAPHY (Honours)

Ninth Paper

(Practical)

[New Syllabus]

Set - III

Full Marks : 50  Time : Four Hours

*The figures in the margin indicate full marks.*

1. (i) Record the readings from the Fortin's barometer after calibrating the instrument properly.

(ii) Calculate the current air pressure in metric SI Unit.  3+2=5

2. (i) Interpret the condition of atmospheric pressure over Indian sub-continent from the given weather map of India with suitable illustrations.

(ii) Predict the possible forthcoming weather phenomena as revealed by the pressure condition in the given map.  7+3=10

3. (i) Prepare a thematic map of drainage networks and water bodies from the standard FCC satellite imagery supplied to you.

P.T.O.

9/50 - 1200

(ii) Note the salient features of drainage networks and water bodies of the area covered by the given satellite image with the techniques of visual interpretation. 7+3=10

4. You are given a scanned photo of a SOI Toposheet of 1:50,000 scale.

(i) Import the map to the ILWIS software platform as rater image and save it to a specified folder within a local disk with your Roll & No (without space in between) as filename.

(ii) Create a coordinate system file with reference to the following geodetic parameters on which the SOI Toposheet has been embedded :

| | |
|---|---|
| Projection | : Lambert Conformal Conic |
| Ellipsoid | : Everest (India 1956) |
| Datum | : Indian (India, Nepal) |
| False Easting | : 0 |
| False Northing | : 0 |
| Central Meridian | : 80°E |
| Central Parallel | : 24°N |
| Standard Parallel 1 | : 35°N |
| Standard Parallel 2 | : 12°N |

(iii) Create an alternative coordinate system file with reference to the geodetic parameters on which the output of the geo-referenced map will be generated. The output map will be prepared on :

| | |
|---|---|
| Projection | : UTM (Zone 42) |
| Ellipsoid | : WGS 84 |
| Datum | : WGS 1984 |

(iv) Transfer the coordinates of at least four known points from Lambert Conformal Conic to UTM and record it for being used as tie points.

(v) Generate a geo-referenced map on UTM Projection and note down the coordinate of the given point x on the map.

[Note : *You will be allowed a maximum of 20 minutes to complete answering Q. No. 4*].

2+2+2+2+2=10

5. (i) Insert the following dataset in a spreadsheet on MS Excel and save it to a specified folder within a local disk with your Roll & No (without space in between) as filename.

P.T.O.

| Number and Percentage of Population Below Poverty Line (2011-12) | | | | |
|---|---|---|---|---|
| State/Union Territory | Rural | | Urban | |
| | No. of Persons (Thousands) | Poverty line (□) | No. of Persons (Thousands) | Poverty line (□) |
| Arunachal Pradesh | 425 | 930.00 | 66 | 1060.00 |
| Assam | 9,206 | 828.00 | 921 | 1008.00 |
| Manipur | 745 | 1118.00 | 278 | 1170.00 |
| Meghalaya | 304 | 888.00 | 57 | 1154.00 |
| Mizoram | 191 | 1066.00 | 37 | 1155.00 |
| Nagaland | 276 | 1270.00 | 100 | 1302.00 |
| Tripura | 449 | 798.00 | 75 | 920.00 |

Source : Reserve Bank of India, 2017

(ii) Calculate the difference of rural and urban poverty line of each of the *Seven Sister states* of North East India.

(iii) Calculate the Mean Poverty Line for rural and urban areas separately for the North-east India.

(iv) Represent the distribution of persons below poverty lines in urban and rural areas separately among the North-east Indian states with two separate divided circles and label them properly using MS excel chart layout options.

[Note : *You will be allowed a maximum of 20 minutes to complete answering Q. No. 5*] 2+2+3+3=10

6. Laboratory Note Book and Viva-voce. 2+3=5

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P - III (1+1+1) H/Pr/17 (N)

2017

GEOGRAPHY (Honours)

Sixteenth Paper

(Practical)

[New Syllabus]

Set - II

Full Marks : 50                                   Time : Four Hours

*The figures in the margin indicate full marks.*

1. (a) Interpret the Indian Daily Weather Report given to you with special reference to precipitation and cloud cover with suitable maps, charts and diagrams.

(b) What is meant by pressure gradient ?

4+4+2=10

2. (a) Take reading from Maximum and Minimum Thermometer and calculate the diurnal range of temperature from the given instrument to you.

(b) Account for the suitable condition for setting up of Simon's Rain-Gauge.                                   4+1=5

3. Field Report and Viva-voce.                  20+10=30

4. Laboratory Note book and Viva-voce.          3+2=5

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P - III (1+1+1) H/Pr/17 (N)

2017

GEOGRAPHY (Honours)

Sixteenth Paper

(Practical)

[New Syllabus]

Set - III

Full Marks : 50                                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. (a) Find out the zone of high pressure and low pressure and interpret pressure conditions as a whole depicited on the given weather map.

   (b) Interpret the direction and speed of flow of wind on the area of given Weather map.

   (c) What do you mean by weather forecasting ?

                                                        6+3+1=10

2. (a) Take reading from the instrument (Hygrometer) give to you and compute Relative Humidity.

   (b) What is the name of measuring instrument in wind velocity ?                              4+1=5

3. Field Report and Viva-voce.          20+10=30

4. Laboratory Note book and Viva-voce.      3+2=5

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2017

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - I

Full Marks : 50     Time : Four Hours

*The figures in the margin indicate full marks.*

1. What is primary data? What do you mean by Mailed Questionnaire Method of collecting primary data? 2+3=5

2. Represent the following data by Rank-Size Rule. Is there any primacy in the distribution? 8+2=10

| Rank | Population |
|------|-----------|
| 1 | 4580544 |
| 2 | 1008704 |
| 3 | 492996 |
| 4 | 486304 |
| 5 | 441956 |
| 6 | 392150 |
| 7 | 389214 |

P.T.O.

| 8 | 348379 |
|----|--------|
| 9 | 336390 |
| 10 | 314334 |
| 11 | 290067 |
| 12 | 285871 |
| 13 | 284615 |
| 14 | 271781 |
| 15 | 261575 |
| 16 | 250615 |
| 17 | 231515 |
| 18 | 220032 |
| 19 | 215432 |
| 20 | 207984 |

3. (a) Write the full form of LISS. Differentiate forward overlap from lateral overlap. 2+3=5

(b) Maximum altitude of a playground above mean sea level : 10,000 ft. Minimum altitude of the same playground above mean sea level : 6000 ft. A photograph of that playground was taken from height above m̂sl: 20,000 ft. Calculate the scale of that photograph. 5

4. Prepare an over lay of road network from the given satellite image. 5

5. Insert the following data set in spread sheet of MS Excel 2007 and prepare a scatter diagram. Also add trend line to the plot and display equation and $R^2$ on the plot.

(Plotting : 2+ Labeling : 1 + Trend line, $R^2$ and equation display : 2) = 5

| Months of the year 2010 | M Max_Temp of Malda (°C) | MMax_Temp of Balurghat (°C) |
|-------------------------|--------------------------|-----------------------------|
| January | 21 | 23 |
| February | 28 | 28 |
| March | 35 | 33 |
| April | 37 | 37 |
| May | 35 | 35 |
| June | 34 | 35 |
| July | 33 | 34 |
| August | 34 | 34 |
| September | 33 | 34 |
| October | 32 | 33 |
| November | 30 | 31 |
| December | 25 | 26 |

6. Import the given raster in ILWIS Software. Create a geographic co-ordinate system (Everest, India 1956 as Ellipsoid and Indian, India Nepal as Datum). Georeference the imported map in the co-ordinate system created by you and then note down the value of co-ordinate point of four corner of the map to see the deviation from those of scanned raster.

2+2+4+2=10

7. Laboratory note book and viva-voce. 3+2=5

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Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. What do you mean by Schedule Method of collecting primary data ? Mention some of its limitations.        2+3=5

2. Compute location quotient of the following district wise population distribution and categorize the districts based on computed value and interpret.        6+2+2=10

| District | Urban Population (Census, 2001) | Population (Census, 2001) |
|---|---|---|
| Puruliya | 255239 | 2535233 |
| Bankura | 235264 | 3191822 |
| Midnapore | 1010954 | 9638473 |
| Birbhum | 258479 | 3012546 |
| Burdwan | 2572423 | 6919698 |
| Nadia | 979047 | 4603756 |

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| | | |
|---|---|---|
| U. Dinajpur | 294471 | 2441824 |
| Malda | 240915 | 3290160 |
| Hooghly | 1687410 | 5040047 |
| Howrah | 2153571 | 4274010 |
| Murshidabad | 732343 | 5869717 |
| Darjeeling | 520877 | 1605900 |
| Kolkata | 4580544 | 4580544 |
| D. Dinajpur | 196643 | 1502647 |
| 24 Pargana (S) | 1089730 | 6909015 |
| 24 Pargana (N) | 4849218 | 8930295 |
| Jalpaiguri | 603847 | 3403204 |
| Coochbehar | 225506 | 2478280 |

3. (a) Define photogrammetry. What are the limitations of this technique ? 2+3=5

(b) Scale of a aerial photograph is 1 : 24000

Distance between two points on that photo : 6 inch

Calculate distance of corresponding two points on ground. 5

4. Prepare an overlay of settlements from the given satellite image. 5

5. Insert the following data in spread sheet of MS Excel 2007 and prepare a pie graph to visualize the % of monthly rainfall value to annual total of the station.

(Data Entry : 1 + Chart preparation : 2 + Labeling : 2) = 5

| Month | Normal Rainfall of of Malda (mm) |
|---|---|
| January | 11 |
| February | 11 |
| March | 11 |
| April | 39 |
| May | 118 |
| June | 229 |
| July | 353 |
| August | 302 |
| September | 297 |
| October | 92 |
| November | 12 |
| December | 10 |

6. Import the given raster in ILWIS Software. Create a geographic co-ordinate system (Everest, India 1956 as Ellipsoid and Indian, India Nepal as Datum). Georeference the imported map in the co-ordinate system created by you and then note down the value of co-ordinate point of four corner of the map to see the deviation from those of scanned raster. 2+2+4+2=10

7. Laboratory note book and viva-voce. 3+2=5

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( 4 )

6. Import the given raster in ILWIS Software. Create a geographic co-ordinate system (Everest, India 1956 as Ellipsoid and Indian, India Nepal as Datum). Georeference the imported map in the co-ordinate system created by you and then note down the value of co-ordinate point of four corner of the map to see the deviation from those of scanned raster.          2+2+4+2=10

7. Laboratory note book and viva-voce.          3+2=5

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Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Define primary and secondary data ? Write about advantage and limitations of questionnaire method of collecting primary data.          2+3=5

2. Construct Lorenz's curve using following data to find out degree of parity or disparity of distribution of area under wheat cultivation with respect to total area under cereal cultivation and make comment on it.          8+2=10

| Year | Area under cultivation of total cereal ('000 Hectare) | Area under wheat cultivation ('000 Hectare) |
|------|------|------|
| 2001-02 | 220.8 | 9.5 |
| 2002-03 | 218 | 9.5 |
| 2003-04 | 222.9 | 10.5 |
| 2004-05 | 225.9 | 9.4 |

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| 2005-06 | 221.1 | 9.3 |
|---------|-------|-----|
| 2006-07 | 195.5 | 8.9 |
| 2007-08 | 208.5 | 10.1 |
| 2008-09 | 216.8 | 11.1 |
| 2009-10 | 202.7 | 11.8 |
| 2010-11 | 202.8 | 12.6 |
| 2011-12 | 195.5 | 12.6 |
| 2012-13 | 194.3 | 12.3 |
| 2013-14 | 194.5 | 12.3 |

3. (a) Focal length of camera : 6 inch

Flying height above mean sea level (while taking the snap) : 19000 ft.

Maximum altitude of the ground above mean sea level : 9000 ft.

Minimum altitude of the ground above mean sea level : 5000 ft.

Calculate the average scale of a photograph of that ground surface.            5

(b) What is fiducial mark ? What are the differences between Principal Point of the photograph and Photo Nadir Point ?            2+3=5

4. Prepare an overlay of settlement from the given satellite image.            5

5. Insert the following data in spread sheet of MS Excel 2007 and prepare a scatter plot. Add trend line to the plot and display $R^2$ and equation on the plot.

(Plot : 2 + Trend line, equation, $R^2$ display : 2 + Labeling : 1) = 5

| Month | Rainfall average from 2000 to 2015 (mm) | Quick runoff average from 2000 - 2015 (mm) |
|-------|-----------------------------------------|--------------------------------------------|
| January | 96.1 | 0.855 |
| February | 256.3 | 22.093 |
| March | 256.8 | 1.636 |
| April | 995.5 | 33.369 |
| May | 2435.6 | 123.221 |
| June | 4950.6 | 1253.432 |
| July | 4679.6 | 1712.722 |
| August | 4100.9 | 1594.438 |
| September | 3809.3 | 1517.538 |
| October | 2322 | 1158.61 |
| November | 78.4 | 12.213 |
| December | 15.2 | 0 |

P.T.O.

6. Import the given raster in ILWIS Software. Create a geographic co-ordinate system (Everest, India 1956 as Ellipsoid and Indian, India Nepal as Datum). Georeference the imported map in the co-ordinate system created by you and then note down the value of co-ordinate point of four corner of the map to see the deviation from those of scanned raster. 2+2+4+2=10

7. Laboratory Note-Book and viva-voce. 3+2=5

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2017

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - IV

Full Marks : 50            Time : Four Hours

*The figures in the margin indicate full marks.*

1. What do you mean by open end and close end question ? What are the advantages and limitations of questionnaire method of collecting primary data ? 2+3=5

2. Use suitable technique to show graphically the parity or disparity of area irrigated from surface water sources with respect to total irrigated area and make comment on it.
8+2=10

| Year | Total Area irrigated ('000 Hectare) | Area under surface water irrigation ('000 Hectare) |
|------|------|------|
| 2001-02 | 62.36 | 20.24 |
| 2002-03 | 56.9 | 16.26 |
| 2003-04 | 58.95 | 15.26 |
| 2004-05 | 24.65 | 16.59 |

P.T.O.

| 2005-06 | 28.25 | 16.2 |
|---------|-------|------|
| 2006-07 | 35.49 | 20.49 |
| 2007-08 | 27.98 | 16.23 |
| 2008-09 | 27.978 | 16.23 |
| 2009-10 | 27.978 | 16.23 |
| 2010-11 | 46.941 | 30.083 |
| 2011-12 | 52.56 | 30.01 |
| 2012-13 | 40.04 | 18.02 |
| 2013-14 | 15172 | 11002 |

3. (a) What is match line ? How is it demarcated on photograph ? Write one of its uses.  2+2+1=5

(b) Relief displacement of a photographed object : 0.130 inch.

Radial distance between top of that photographed object and principal point of the photo : 2.20 inch.

Flying height above ground (while taking the snap) : 3000 ft.

Calculate height of that photographed object. 5

4. Prepare an overlay of settlement from the given satellite image.  5

5. Insert the following data in spread sheet of MS Excel 2007 and prepare a scatter plot. Add trend line to the plot and display $R^2$ and equation on the plot.

(Plot : 2+Trend line, equation, $R^2$ display : 2+Labeling : 1) = 5

| Year | Rainfall (mm) | Actual Evapotranspiration (mm) |
|------|---------------|-------------------------------|
| 2000 | 1703.6 | 965.09 |
| 2001 | 1798.5 | 722.16 |
| 2002 | 1657.3 | 793.15 |
| 2003 | 1688 | 786.8 |
| 2004 | 1612.9 | 766.92 |
| 2005 | 1647.2 | 729 |
| 2006 | 1121.5 | 678.39 |
| 2007 | 1517.6 | 728.59 |
| 2008 | 1372.4 | 708.55 |
| 2009 | 1181.7 | 620.55 |
| 2010 | 1634.6 | 718.27 |
| 2011 | 1462.6 | 747.34 |
| 2012 | 1230.3 | 640.89 |
| 2013 | 1431.4 | 682.55 |
| 2014 | 1364.6 | 711.78 |
| 2015 | 1572.1 | 755.78 |

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and then note down the value of co-ordinate point of four corner of the map to see the deviation from those of scanned raster.                    2+2+4+2=10

7. Laboratory Note Book and viva-voce.      3+2=5

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2017

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - VII

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Mention merits and limitations of Questionnaire Method of collecting primary data.        2½+2½=5

2. Following table show data on Gauge Level (m) of a stream. Calculate discharge for corresponding Gauge Level using following rating curve equation and plot the data to prepare a rating curve.

The Rating Equation : $Q = 49.915 \ (G - 0.8)^{1.622}$

| Gauge, G (m) | Discharge, Q ($m^3$/s) |
|---|---|
| 3.8 | ? |
| 4.7 | ? |
| 5.5 | ? |
| 5.85 | ? |

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| 6.55 | ? |
|------|---|
| 6.9 | ? |
| 7.1 | ? |
| 7.45 | ? |
| 7.85 | ? |

5+5=10

3. (a) What is spectral signature ? Write about importance of relief displacement property of vertical aerial photograph. 2+3=5

(b) Focal length of the aerial camera = 12 inch.

Flying height above mean sea level = 900 ft

Elevation of ground = 300 ft

Using the above information calculate the scale of aerial photograph. 5

4. Prepare an overlay of drainage network of the given satellite image using visual interpretation technique. 5

5. Insert the data from following table in Spread Sheet of MS Excel 2007 and prepare a line graph.
(data insert = 1 + Chart preparation = 2 + Labeling = 2) = 5

| Year | Area under cultivation of Aman Paddy ('000 Hectare) |
|------|------|
| 1999-00 | 172 |
| 2000-01 | 166 |
| 2001-02 | 164.7 |
| 2002-03 | 163.1 |
| 2003-04 | 165.2 |
| 2004-05 | 167.1 |
| 2005-06 | 159 |
| 2006-07 | 132.4 |
| 2007-08 | 147.9 |
| 2008-09 | 154.7 |
| 2009.10 | 149.9 |
| 2010-11 | 151.6 |
| 2011-12 | 149.6 |
| 2012-13 | 158.5 |
| 2013-14 | 157.5 |

6. Import the given raster in ILWIS Software. Create a geographic co-ordinate system (Everest, India 1956 as Ellipsoid and Indian, India Nepal as Datum). Georeference the imported map in the co-ordinate system created by you

P.T.O.

2017

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - I

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

Asnwer *all* questions.

1. Identify the set of rocks and minerals specimens (5) given to you and mention their at least two megascopic identification characteristics for each.                    2×5=10

2.  (i) What is 'snow ball sampling ? Give example.

(ii) Arrange the following data into simple frequency distribution and calculate 'median' and 'mode'.

Table – 1   Daily Number of Car Accidents

| | | | | | |
|---|---|---|---|---|---|
| 4, | 6, | 5, | 4, | 4, | 6, |
| 3, | 5, | 4, | 5, | 3, | 5, |
| 4, | 4, | 5, | 6, | 4, | 3, |
| 5, | 5, | 3, | 3, | 5, | 4, |
| 7, | 6, | 5, | 5, | 4, | 5 |

P.T.O.

The following data are the percentage of urban population for the states of India, 2001.

49.77,   49.50,   43.86,   42.40,   37.35,   33.98,

33.95,   29.00,   28.03,   27.08,   26.67,   25.97,

25.59,   24.48,   23.88,   23.38,   22.25,   20.78,

20.41,   20.08,   16.63,   17.74,   17.02,   14.97,

12.12,   11.10,   10.47,   9.79

(iii) From the data given above calculate the frequency densities for each class and draw histogram using it.

(iv) Draw a cumulative frequency polygon (less than type) and plot 6th decile and 2nd quartile on it.

(v) Find out the number of states whose urban population percentage fall within 5th and 8th decile.

$$2+2+2+4+4+2+4=20$$

3. (i) Draw a geological section along the given line and interpret its geological succession and geological structure.

(ii) What is 'in lier' and 'out lier'?

$$8+2\frac{1}{2}+2\frac{1}{2}+2=15$$

4. Laboratory Notebook and Viva-voce.    $3+2=5$

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P - III (1+1+1)H/Pr/17 (N)

2017

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - II

Full Marks : 50

Time : Four Hours

*The figures in the margin indicate full marks.*

Answer *all* questions.

1. Mention the characteristics of the given set of rock and mineral specimens (5) given to you and identify them.          $2 \times 5 = 10$

2. (i) What is frequency density ? When is it used ?

(ii) .If mean and median of a frequency distribution are 25 and 23 respectively find out mode.

(iii) Draw ogives from the following data (Table-1) and calculate median.

(iv) Calculate 6th decile and 27th percentile and show on less than cumulative frequency polygen.

P.T.O.

## Table - 1 : Height of students in inches.

| Height | Number of Students |
|--------|--------------------|
| 60 - 62 | 5 |
| 63 - 65 | 18 |
| 66 - 68 | 42 |
| 69 - 71 | 27 |
| 72 - 74 | 8 |

(v) Calculate mean absolute deviation about median.

(vi) From the following table (Table-2) calculate the value of 'r' and comment on the degree of relationship.

### Table - 2

| X : | 2 | 9 | 3 | 25 | 6 | 17 | 5 | ? |
|-----|---|---|---|----|---|----|---|---|
| Y : | 3 | 12 | 4 | ? | 10 | 22 | 3 | 15 |

(Arithmetic mean of 'X' and 'Y' series are 11 and 10 respectively). 2+2+5+2+4+2+3=20

3. (i) Draw a geological section along the given section line and arrange the rock beds in order of sequence. (Map-1).

(ii) Interpret the topography and geological succession of the map. 10+2½+2½=15

4. Laboratory Notebook and Viva-voce. 3+2=5

P - III (1+1+1)H/Pr/17 (N)

2017

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - IV

Full Marks : 50

Time : Four Hours

*The figures in the margin indicate full marks.*

Answer *all* questions.

1. (i) What is the difference between rocks and minerals ?

(ii) Mention the megascopic identifying characteristics (at least two) of the rock and mineral specimens (4) given to you and write down the name of them.     2+(2×4)=10

2. (i) What is the difference between probability sampling and non probability sampling ?

(ii) From the following cumulative frequency distribution find out semi-interquartile range.

### Table - 1

| Class boundary | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 |
|---|---|---|---|---|---|---|---|---|---|
| Cumulative frequency | 0 | 4 | 16 | 32 | 54 | 64 | 72 | 78 | 82 |

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( 2 )

(iii) From the given data (Table-2) draw histogram and interpret it.

### Table - 2

| Height in inch | | No. of Students |
|---|---|---|
| Less than | 55.5 | 0 |
| Less than | 58.5 | 3 |
| Less than | 61.5 | 15 |
| Less than | 64.5 | 35 |
| Less than | 67.5 | 65 |
| Less than | 70.5 | 90 |
| Less than | 73.5 | 100 |

(iv) Calculate mode graphically.

(v) From the following table showing the scores of two batsman in 10 matches determine which batsman is more consistent in scoring runs.

### Table - 3

| Matches | Batsman-1 | Batsman-2 |
|---|---|---|
| 1 | 15 | 32 |
| 2 | 49 | 40 |
| 3 | 22 | 51 |
| 4 | 102 | 68 |
| 5 | 10 | 42 |
| 6 | 75 | 69 |

( 3 )

| | | |
|---|---|---|
| | 12 | 38 |
| 7 | 79 | 52 |
| 8 | 07 | 15 |
| 9 | 12 | 48 |
| 10 | | |

(vi) Why standard deviation is more better than the mean deviation ?  2+3+6+2+2+3+2=20

3. (i) Interpret the given geological map based on a suitable geological section on following heads :

(a) General Geology.

(b) Geological Succession.

(ii) What is 'cap rock' ?  8+3+3+1=15

4. Laboratory Note book and viva-voce.  3+2=5

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P - III (1+1+1)H/Pr/17 (N)

2017

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - V

Full Marks : 50        Time : Four Hours

*The figures in the margin indicate full marks.*

Answer *all* questions.

1. Identify the given sample of Rocks and Minerals (5) and mention at least two important properties of each of them. $2 \times 5 = 10$

2. (i) What is the difference between parametric data and non parametric data ? 2

(ii) Find out the mean, median and mode of the following numbers : (**Table - 1** : Numbers) 2

88, 72, 73, 29, 70, 54, 91, 57, 72, 61, 29, 72

(iii) Draw a frequency curve from the following data (Table-2) and interpret the nature of distribution. (~~1+2+2~~)

(1+2+2+2)

P.T.O.

**Table - 2 : Population density / sq.km.**

242, 10, 286, 497, 316, 211, 372, 93, 76

235, 749, 149, 257, 82, 79, 33, 73, 203

403, 129, 57, 429, 263, 473, 767

(iv) Find out standard deviation and comment on it. 3

(v) Find out semi-interquartile range of the data. 3

(vi) If the values 33 and 10 are replaced by 173 and 108 what will be the changes in standard deviation ? 3 (2+1)

$$2+2+5+2+3+3+3=20$$

3. (i) Draw a Geological section along the given line and arrange the rock beds according to their age. (Map-1).

(ii) Interpret the geological structure.

(iii) What is the difference between 'series' and 'formation' ?

(2 + 6 + 1 + 1 + 3 + 2)

$$10+3+2=15$$

4. Laboratory Note book and viva-voce. $3+2=5$

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P - III (1+1+1)H/Pr/17 (N)

2017

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - VI

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

Answer *all* questions.

1. (i) How do you differentiate state from phyllite ?

(ii) Identify the given specimens of rocks and minerals (4) mentioning at least two major properties each of them.                    2+(2×4)=10

2. (i) What is the difference between stratified random sampling and systematic sampling.

(ii) From the table given below find out the percentage employees earning less than $280.00 per week but at least $ 260.00 per week.

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#### Table - 1

| Wages/Week (Dollars) | No. of employees |
|---|---|
| 250.00 - 259.99 | 8 |
| 260.00 - 269.99 | 10 |
| 270.00 - 279.99 | 16 |
| 280.00 - 289.99 | 14 |
| 290.00 - 299.99 | 10 |
| 300.00 - 309.99 | 05 |
| 310.00 - 319.99 | 02 |

(iii) Plot the following data (Table - 2) in a scatter diagram and interpret the nature of relationship.

(iv) Draw a best fitting trend line in support of your interpretation.

(v) What is 'regression? Calculate the production of wheat in Metric Tonnes when amount of rainfall is 100mm.

#### Table - 2

| Winter Rainfall (mm) : | 40 | 66 | 63 | 91 | 83 | 75 | 25 | 99 | 35 | 78 |
|---|---|---|---|---|---|---|---|---|---|---|
| Wheat Production (MT) | 46 | 54 | 58 | 87 | 63 | 68 | 60 | 90 | 50 | 80 |

(vi) Mention the empirical relationship among mean, median and mode.  2+2+5+2+5+2+2=20

3. (i) Define unconformity.

(ii) Draw a geological section and interpret it.  2+8+5=15

4. Laboratory notebook and viva-voce.  3+2=5

___

P - III (1+1+1) H/Pr/16(N)

2016

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - IV

Full Marks : 50                                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. (a) Differentiate between schedule and questionnarie.

3

   (b) Give an example of open-end and closed-end questions each.

2

2. (a) The following table shows the Population of some of the urban centres for the district of North 24 Parganas in the state of West Bengal. Represent the same by Rank Size Rule.

7

| Name of Urban Centre | Population |
|---|---|
| Bangaon | 102163 |
| Barrackpur | 61771 |
| Bhatpara | 80005 |
| North Dum Dum | 50552 |

P.T.O.

9/32-500

| South Dum Dum | 88989 |
|---|---|
| Kamarhati | 62691 |
| Baranagar | 55250 |
| Rajarhat Gopalpur | 61898 |
| Gobardanga | 41625 |
| Naihati | 34928 |
| New Barrackpur | 16594 |
| Barasat | 51607 |
| Madhyamgram | 34952 |
| Taki | 7612 |

(b) Considering that these are the only urban centres in the district, identify whether there is any primacy in the distribution.                           2

3. (a) What do you understand by GPS ? Write on the advantages and limitations of GPS.          2+4=6

(b) Differentiate between rester and vector data structure.                           4

4. Interpret the given theme of the satellite image using visual interpretation techniques. Draw neat sketches as and where required.                           5

5. The following table data gives the data for basin area and sediment load for some of the major rivers of the world.

| River | Area (million sq. km.) | Sediment Load (million tonnes/yr) |
|---|---|---|
| Magdalena | 0.24 | 220 |
| Irrawady | 0.43 | 260 |
| Brahmaputra | 0.61 | 540 |
| Colorado | 0.63 | 120 |
| Indus | 0.97 | 250 |
| Ganga | 0.98 | 520 |
| Orinoco | 0.99 | 150 |
| Yangtze | 1·90 | 480 |
| Mississipi | 3.3 | 400 |
| Amazon | 6.1 | 1200 |
| Hwang Ho | 0.77 | 1100 |
| Mekong | 0.79 | 160 |

Insert the data in a spread sheet and prepare a scatter diagram to show the relationship between area (X) and sediment loads (Y) in MS Excel 2007 software.          2

Add a trend line (Linear) to the plot and display the equation and $r^2$ values on the plot.                           2

Add suitable heading, axis title and legend as and where required save the file with your Roll Number (no space in between) within the specified folder as per the instructions given.                           1

P.T.O.

9/32-500

( 4 )

6. Import the given map (in . bmp format) in *ILWIS* environment with the name as per your roll no. (no space in between).
2

Create a suitable coordinate system (name as per your roll no.) in either Geographic (Everest India, 1956 as Ellipsoid and Indian, India Nepal as Datum) or Projected (with UTM projection) in the specified WGS 1984 zone. 2

Geo-reference the map in any of the coordinate systems created above and note down the latitude and longitude of the points marked A and B on the map.
4+1+1=6

7. Laboratory note book and viva-voce.
3+2=5

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Instrument, computer
Chair Table,
SLno Date Purchase Item
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2/2
Geo Alm 1/3

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1. (a) Differentiate between an open-end and closed end questions in a schedule.
2

(b) What are the essential requirements of a good questionnaire ?
3

2. The following data table shows the 2001 distribution of male and female population with respect to the total population in different police stations of the district of Malda. Represent the inequality in the distribution of male and female population by means of Lorerz Curve.
5+5=10

| Name of the P.S. | 2001 Population | 2001 Males | 2001 Females |
|---|---|---|---|
| Harischandrapur I | 162369 | 83122 | 79247 |
| Harishchandrapur II | 198127 | 102075 | 96052 |
| Chanchal I | 174177 | 89220 | 84957 |

P.T.O.

9/30-500

| | | | |
|---|---|---|---|
| Chanchal II | 165168 | 84173 | 80955 |
| Ratua I | 217259 | 112462 | 104797 |
| Ratua II | 160922 | 82346 | 78576 |
| Gajole | 294749 | 150337 | 144412 |
| Habibpur | 187568 | 94861 | 92707 |
| Bamangola | 127156 | 65196 | 61960 |
| Old Malda | 131230 | 67592 | 63638 |
| Englishbazar | 226215 | 116371 | 109844 |
| Manikchak | 214123 | 110407 | 103716 |
| Kaliachak I | 310821 | 159919 | 150902 |
| Kaliachak II | 211533 | 108955 | 102578 |
| Kaliachak III | 284351 | 146919 | 137432 |

3. (a) What do you understand by remote sensing ? Describe how remote sensing techniques are superior over traditional methods. 2+3=5

(b) Define photogrammetry. 2

(c) Write the names of any two Indian satellites. 2

(d) Write the full form of GPS. 1

4. Interpret the given theme of the satellite imagery using visual techniques. Draw neat sketches as and where required. 5

5. The following data shows the distribution of workers in different categories in the district of South Sikkim for the year 2001.

| Worker Categories | No. of People |
|---|---|
| Main Workers | 57367 |
| Marginal Workers | 12326 |
| Cultivators | 48378 |
| Agricultural Labourers | 2694 |
| Household Industry Workers | 715 |
| Other Workers | 17906 |

Insert the data in a spreadsheet and prepare a pie diagram to represent the given data in MS Excel 2007 software. 3

Add suitable heading axis titles and legend as and when required. 1

Save the file with your roll no (no space in between) within the specified folder as per the instructions. 1

6. Import the given map (in.bmp format) in ILWIS environment with the name as per your roll number (no space in between). 2

Create a suitable coordinate system (name as per your roll number) in either Geographic (Everest India, 1956 as Ellipsoid and Indian — India, Nepal as Datum) or projected (with UTM Projection) in the specified WGS 1984 zone. 2

P.T.O.

9/30-500

( 4 )

Georeference the map in any of the coordinate systems.

4

Write the full form of ILWIS, 2

7. Laboratory note book and viva-voce. 3+2=5

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9/19 - 500

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2016

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - II

Time : Four Hours

Full Marks : 50

*The figures in the margin indicate full marks.*

1. (a) Differentiate between an open-end and closed end questions in a schedule. 2

(b) What are the essential requirements of a good questionnaire ? 3

2. The following data table shows the 2001 distribution of male and female population with respect to the total population in different police stations of the district of Malda. Represent the inequality in the distribution of male and female population by means of Lorerz Curve. 5+5=10

| Name of the P.S. | 2001 Population | 2001 Males | 2001 Females |
|---|---|---|---|
| Harischandrapur I | 162369 | 83122 | 79247 |
| Harishchandrapur II | 198127 | 102075 | 96052 |
| Chanchal I | 174177 | 89220 | 84957 |

P.T.O

9/30-500

2016

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

Set - I

Full Marks : 50                                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given simple of Rocks and Minerals and mention at least two important properties of each of them.

$$2 \times 5 = 10$$

2. (a) Compute Median and Mode values of temperature of 85 stations for which data is given below :

$$4 + 4 = 8$$

| Temperature (degree centigrade) | No. of stations |
|---|---|
| -5 and above but less than 5 | 13 |
| 5 and above but less than 15 | 20 |
| 15 and above but less than 25 | 35 |
| 25 and above but less than 35 | 10 |
| 35 and above but less than 45 | 7 |

(b) Differentiate Simple Random Sampling from Stratified Random Sampling.

2

P.T.O.

(c) Calculate Karl Pearson's coefficient of correlation between winter rainfall and production of wheat in selected villages as per data given below :

| Winter rainfall (mm) | 39 | 65 | 62 | 90 | 82 | 75 | 25 | 98 | 36 | 78 |
|---|---|---|---|---|---|---|---|---|---|---|
| Production of wheat (MT) | 47 | 53 | 58 | 86 | 62 | 68 | 60 | 91 | 51 | 81 |

10

3. Draw a geological section along the given line and interpret it.                     10+5=15

4. Laboratory Notebook and Viva-voce.          3+2=5

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P - III (1+1+1) H/Pr/16(O)

2016

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Old Syllabus]

Set - III

Full Marks : 50                          Time : Three Hours

*The figures in the margin indicate full marks.*

1. (a) Take reading and calculate the Relative Humidity from the given Hygrometer.                     2+1=3

(b) Discuss the suitable precautions for setting up of rain gauge.                                        2

2. Interpret the given Indian Daily Weather Report with special reference to sky condition and pressure.     5+5=10

3. (a) From the given data table, calculate the standard deviation.                                             8

| Age (in years) | Frequency |
|---|---|
| 30 - 34 | 12 |
| 35 - 39 | 15 |
| 40 - 44 | 18 |
| 45 - 49 | 16 |
| 50 - 54 | 10 |
| 55 - 59 | 9 |

(b) Define sampling. Explain the different types of sampling.                                                    2+3=5

(c) Discuss the disadvantages of arithmetic mean.    2

4. (a) An air-craft while flying at an altitude of 40000 feet above mean sea level takes an aerial photograph of a scale of 1:10,000. Find the focal length of the camera.    5

(b) What is remote sensing ? Discuss the advantages and disadvantages of remote sensing.

2+4+4=10

5. Laboratory note book and viva-voce.        3+2=5

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P - III (1+1+1)H/Pr/16

2016

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

Set - II

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given sample of Rocks and Minerals and mention at least two important properties of each them.

$2 \times 5 = 10$

2. (a) Compute Mean and Median values of precipitation of 80 stations for which data is given below :

$4 + 4 = 8$

| Precipitation amounts (cm) | No. of stations |
|---|---|
| Less than 10 | 7 |
| Less than 20 | 20 |
| Less than 30 | 38 |
| Less than 40 | 63 |
| Less than 50 | 70 |
| Less than 60 | 80 |

P.T.O.

(b) Differentiate Probability Sampling from Non-probability Sampling. 2

(c) Calculate Karl Pearson's coefficient of correlation between price and supply of a commodity from the following data : 10

| Price (Rs.) | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|
| Supply (kg.) | 38 | 37 | 38 | 33 | 32 | 33 | 34 | 29 | 26 | 33 |

3. Draw a geological section along the given line and interpret it. 10+5=15

4. Laboratory Notebook and Viva-voce. 3+2=5

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P - III (1+1+1)H/Pr/16

2016

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

Set - III

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given sample of Rocks and Minerals and mention at least two important properties of each of them.                    2×5=10

2. (a) Compute median mathematically. How many days recorded precipitation $\geq 7.5$ cm ? Estimate using graphical method.                    4+4=8

| Amount of precipitation (cm) | No. of Rainy days |
|---|---|
| 2.5-5.5 | 12 |
| 5.5-7.5 | 15 |
| 7.5-10.0 | 20 |
| 10.0-15.0 | 13 |
| 15.0-20.0 | 10 |

P.T.O.

(b) Mention the empirical relationship among Mean, Median and Mode. What is the utility of this relationship ?

1+1=2

(c) Calculate Karl Pearson's correlation coefficient between the average height of plants (cm) in a Grassland and annual rainfall (cm) from the given data : 10

| Height of plants (cm) | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|---|---|---|---|---|---|---|---|
| Annual rainfall (cm) | 66 | 67 | 65 | 68 | 70 | 68 | 72 |

3. Draw a geological section along the given line and interpret it. 10+5=15

4. Laboratory notebook and viva-voce. 3+2=5

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P - III (1+1+1)H/Pr/16

2016

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

Set - IV

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given sample of Rocks and Minerals and mention at least two important properties of each them.                    2×5=10

2. (a) Compute coefficient of SD from the given data on literacy rate of the districts of WB (2011). Compute coefficient of Range.                    6+2=8

| District | Literacy Rate (%) in 2011 |
|---|---|
| Purba Medinipur | 87.66 |
| Kolkata | 87.14 |
| North Twenty Four Parganas | 84.95 |
| Haora | 83.85 |
| Hugli | 82.55 |
| Darjiling | 79.92 |
| Paschim Medinipur | 79.04 |
| South Twenty Four Parganas | 78.57 |
| Barddhaman | 77.15 |
| Nadia | 75.58 |

P.T.O.

9/22 - 500

| | |
|---|---|
| Koch Bihar | 75.49 |
| Dakshin Dinajpur | 73.86 |
| Jalpaiguri | 73.79 |
| Bankura | 70.95 |
| Birbhum | 70.90 |
| Murshidabad | 67.53 |
| Puruliya | 65.38 |
| Maldah | 62.71 |
| Uttar Dinajpur | 60.13 |

(b) Under what circumstances you need to form unequal groups ?     2

(c) Calculate Karl Pearson's correlation coefficient between the depth of Thalweg (cm) and thickness of sediment (cm) from the given data :     10

| Depth of Thalweg (cm) | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|---|---|---|---|---|---|---|---|
| Thickness of sediments (cm) | 26 | 27 | 25 | 28 | 30 | 28 | 32 |

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∑196

3. Draw a geological section along the given line and interpret it.     10+5=15

4. Laboratory Note book and viva-voce.     3+2=5

P - III (1+1+1) H/Pr/16(N)

2016

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - IV

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. (a) Differentiate between schedule and questionnarie.

3

   (b) Give an example of open-end and closed-end questions each.

2

2. (a) The following table shows the Population of some of the urban centres for the district of North 24 Parganas in the state of West Bengal. Represent the same by Rank Size Rule.

7

| Name of Urban Centre | Population |
|---|---|
| Bangaon | 102163 |
| Barrackpur | 61771 |
| Bhatpara | 80005 |
| North Dum Dum | 50552 |

P.T.O.

| South Dum Dum | 88989 |
|---|---|
| Kamarhati | 62691 |
| Baranagar | 55250 |
| Rajarhat Gopalpur | 61898 |
| Gobardanga | 41625 |
| Naihati | 34928 |
| New Barrackpur | 16594 |
| Barasat | 51607 |
| Madhyamgram | 34952 |
| Taki | 7612 |

(b) Considering that these are the only urban centres in the district, identify whether there is any primacy in the distribution.

2

3. (a) What do you understand by GPS ? Write on the advantages and limitations of GPS.

2+4=6

(b) Differentiate between rester and vector data structure.

4

4. Interpret the given theme of the satellite image using visual interpretation techniques. Draw neat sketches as and where required.

5

5. The following table data gives the data for basin area and sediment load for some of the major rivers of the world.

| River | Area (million sq. km.) | Sediment Load (million tonnes/yr) |
|---|---|---|
| Magdalena | 0.24 | 220 |
| Irrawady | 0.43 | 260 |
| Brahmaputra | 0.61 | 540 |
| Colorado | 0.63 | 120 |
| Indus | 0.97 | 250 |
| Ganga | 0.98 | 520 |
| Orinoco | 0.99 | 150 |
| Yangtze | 1.90 | 480 |
| Mississipi | 3.3 | 400 |
| Amazon | 6.1 | 1200 |
| Hwang Ho | 0.77 | 1100 |
| Mekong | 0.79 | 160 |

Insert the data in a spread sheet and prepare a scatter diagram to show the relationship between area (X) and sediment loads (Y) in MS Excel 2007 software.

2

Add a trend line (Linear) to the plot and display the equation and $r^2$ values on the plot.

2

Add suitable heading, axis title and legend as and where required save the file with your Roll Number (no space in between) within the specified folder as per the instructions given.

1

P.T.O

9/32-500

6. Import the given map (in . bmp format) in ILWIS environment with the name as per your roll no. (no space in between).

2

Create a suitable coordinate system (name as per your roll no.) in either Geographic (Everest India, 1956 as Ellipsoid and Indian, India Nepal as Datum) or Projected (with UTM projection) in the specified WGS 1984 zone. 2

Geo-reference the map in any of the coordinate systems created above and note down the latitude and longitude of the points marked A and B on the map.

4+1+1=6

7. Laboratory note book and viva-voce. 3+2=5

_____

Full Marks : 50     Time : Four Hours

*The figures in the margin indicate full marks.*

1. Prepare a model schedule for understanding the success of various government schemes in a rural area. 5

2. (a) The percentage distribution of the average area under five different crops in the Shrigonda Taluka of Ahmednagar District of Maharashtra for the year 2002 is given below. Using Weaver's Method, identify the significant crops of the district. 7

| Name of the Crop | % of Area |
|---|---|
| Bajra | 61.96 |
| Nachani | 27.14 |
| Rice | 5.76 |
| Vegetable | 3.15 |
| Fodder | 1.99 |

(b) State in brief the uses of Rating Curve. 3

P.T.O.

( 2 )

3. (a) Write the full form of GPS.    1

(b) Using a mirror stereoscope, interprete the given pair of aerial photographs with respect to the area overlapped. Draw neat sketches as and when required.    7

(c) Differentiate between geostationary and semsynchronous satellites.    2

4. Interpret the given theme of the satellite image using visual interpretation techniques. Draw neat sketches as and when required.    5

5. The following data shows the monthly rainfall (mm) of the East Sikkim District in the year 2009.

| Month | Rainfall (mm) |
|---|---|
| January | 6.10 |
| February | 0.50 |
| March | 114.20 |
| April | 233.52 |
| May | 325.40 |
| June | 454.64 |
| July | 462.54 |
| August | 419.00 |
| September | 212.90 |
| October | 229.00 |
| November | 22.00 |
| December | 4.80 |

( 3 )

Insert the data in a spreadsheet and prepare a line graph to represent the above data in MS Excel 2007 software.    2

Add suitable heading, axis titles and legend as and where required.    2

Save the file with your roll no (without space in between) within the specified folder as per the instruction.    1

6. Import the given map (in.bmp format) in ILWIS environment with the name as per your roll number (no space in between).    2

Create a suitable coordinate system (name as per your roll number) in either Geographic (Everest India, 1956 as Ellipsoid and Indian - India, Nepal as Datum) on projected (with UTM Projection) in the specified WGS 1984 zone.    2

Georeference the map in any of the coordinate systems created and note down the latitute and longitude of the points marked as A and B on the map.    4+1+1=6

7. Laboratory note book and viva-voce.    3+2=5

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9/29-500

# 2016

## GEOGRAPHY (Honours)

### Fifteenth Paper

### (Practical)

### [Revised New Syllabus]

### Set - II

Full Marks : 50

Time : Four Hours

*The figures in the margin indicate full marks.*

1. (a) Differentiate between an open-end and closed end questions in a schedule. **2**

   (b) What are the essential requirements of a good questionnaire ? **3**

2. The following data table shows the 2001 distribution of male and female population with respect to the total population in different police stations of the district of Malda. Represent the inequality in the distribution of male and female population by means of Lorerz Curve. **5+5=10**

| Name of the P.S. | 2001 Population | 2001 Males | 2001 Females |
|---|---|---|---|
| Harischandrapur I | 162369 | 83122 | 79247 |
| Harishchandrapur II | 198127 | 102075 | 96052 |
| Chanchal I | 174177 | 89220 | 84957 |

P.T.O.

9/30-500

| Chanchal II | 165168 | 84173 | 80955 |
|---|---|---|---|
| Ratua I | 217259 | 112462 | 104797 |
| Ratua II | 160922 | 82346 | 78576 |
| Gajole | 294749 | 150337 | 144412 |
| Habibpur | 187568 | 94861 | 92707 |
| Bamangola | 127156 | 65196 | 61960 |
| Old Malda | 131230 | 67592 | 63638 |
| Englishbazar | 226215 | 116371 | 109844 |
| Manikchak | 214123 | 110407 | 103716 |
| Kaliachak I | 310821 | 159919 | 150902 |
| Kaliachak II | 211533 | 108955 | 102578 |
| Kaliachak III | 284351 | 146919 | 137432 |

3. (a) What do you understand by remote sensing ? Describe how remote sensing techniques are superior over traditional methods.                  2+3=5

(b) Define photogrammetry.                  2

(c) Write the names of any two Indian satellites.  2

(d) Write the full form of GPS.                  1

4. Interpret the given theme of the satellite imagery using visual techniques. Draw neat sketches as and where required.
                                                      5

5. The following data shows the distribution of workers in different categories in the district of South Sikkim for the year 2001.

A ⟹ Lat — 24°11'55"N
        log — 86°57'23"
B — Lat — 24°8'03"
        log — 86°50'04"

| Worker Categories | No. of People |
|---|---|
| Main Workers | 57367 |
| Marginal Workers | 12326 |
| Cultivators | 48378 |
| Agricultural Labourers | 2694 |
| Household Industry Workers | 715 |
| Other Workers | 17906 |

Insert the data in a spreadsheet and prepare a pie diagram to represent the given data in MS Excel 2007 software.                  3

Add suitable heading axis titles and legend as and when required.                  1

Save the file with your roll no (no space in between) within the specified folder as per the instructions.  1

6. Import the given map (in.bmp format) in ILWIS environment with the name as per your roll number (no space in between).                  2

Create a suitable coordinate system (name as per your roll number) in either Geographic (Everest India, 1956 as Ellipsoid and Indian — India, Nepal as Datum) or projected (with UTM Projection) in the specified WGS 1984 zone.                  2

P.T.O.

9/30-500

( 4 )

Georeference the map in any of the coordinate systems.

Write the full form of ILWIS.      4

7. Laboratory note book and viva-voce.      2

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3+2=5

*(handwritten notes)*

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2112 - 0017.
2113 - 0016.
2113 - 0024
1111 - 0005. 0005.
0812 - 0008.
" - 0009
0023
0045
0813 -
0019
" 0020

0613-00

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*The figures in the margin indicate full marks.*

1. Prepare a schedule to assess the status and public perception of the medical facilities in your locality.      5

2. The following data gives the results of the monthly average flow per unit area for the Subarnarekha & Mahanadi River basins from 2007-12. Represent the data by a hydrograph.      4+4=8

Interpret the data and compare the two basins with respect to their average flow.      2

Monthly average flow (mm) per unit area

| Month | Mahanadi | Subarnarekha |
|---|---|---|
| | | 32.70 |
| June | 15.08 | 93.35 |
| July | 74.37 | 160.51 |
| August | 129.00 | |

P.T.O.

9/31-500

| | | |
|---|---|---|
| September | 87.81 | 133.61 |
| October | 30.38 | 62.85 |
| November | 10.69 | 22.11 |
| December | 5.52 | 8.84 |
| January | 4.30 | 5.58 |
| February | 3.59 | 3.86 |
| March | 3.30 | 2.78 |
| April | 3.01 | 2.38 |
| May | 2.94 | 3.98 |

3. (a) Using a mirror stereoscope, interpret the given pair of aerial photographs with respect to the area overlapped. Draw neat sketches as and where required. 7

(b) Write the names of two Indian satellites known to you.

2

(c) Write the full form of GIS.

1

4. Interpret the given theme of the satellite image using visual interpretation techniques. Draw neat sketches as and where required.

5

5. The following data table gives the rates of denudation undergone by some of the major rivers of the world.

| Name of the River | Rate of Denudation (tons/ km²/yr) |
|---|---|
| Ganga | 549 |
| Yamuna | 308 |
| Brahmaputra | 953 |
| Gandak | 523 |
| Ghaghra | 1108 |
| Mahanadi | 81 |
| Krishna | 57 |
| Godavari | 610 |
| Kaveri | 40.5 |
| Yangtze | 362 |
| Irrawady | 873 |
| Amazon | 192 |
| Magdalera | 1033 |
| Mississipi | 104 |
| Orinoco | 264 |
| Mekong | 274 |
| Congo | 23 |

Insert the data in a spreadsheet and prepare a simple bar diagram to represent the above data in MS Excel 2007 software.

2

Add suitable heading, axis title and legend as and when required.

2

P.T.O.

9/31-500

Save the file with your Roll No. (no space in between) within the specified folder as per the instructions given.

1

6. Import the given map (in.bmp format) in *ILWIS* environment with the name as per your roll number (no space in between).

2

Create a suitable coordinate system (name as per your roll no.) in either Geographic (Everest India, 1956 as Ellipsoid and Indian — India, Nepal and Datum) or projected (with UTM Projection) in the specified WGS 1984 zone.

2

Geo-reference the map in any of the coordinate systems created above and note down the latitude and longitude of the points marked as A and B on the map.

4+1+1=6

7. Laboratory note book and viva-voce. 3+2=5

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# 2016

# GEOGRAPHY (Honours)

## Fifteenth Paper

### (Practical)

### [Revised New Syllabus]

### Set - IV

Time : Four Hours

Full Marks : 50

*The figures in the margin indicate full marks.*

1. (a) Differentiate between schedule and questionnarie. 3

(b) Give an example of open-end and closed-end questions each. 2

2. (a) The following table shows the Population of some of the urban centres for the district of North 24 Parganas in the state of West Bengal. Represent the same by Rank Size Rule. 7

| Name of Urban Centre | Population |
|---|---|
| Bangaon | 102163 |
| Barrackpur | 61771 |
| Bhatpara | 80005 |
| North Dum Dum | 50552 |

| South Dum Dum | 88989 |
|---|---|
| Kamarhati | 62691 |
| Baranagar | 55250 |
| Rajarhat Gopalpur | 61898 |
| Gobardanga | 41625 |
| Naihati | 34928 |
| New Barrackpur | 16594 |
| Barasat | 51607 |
| Madhyamgram | 34952 |
| Taki | 7612 |

(b) Considering that these are the only urban centres in the district, identify whether there is any primacy in the distribution.

2

3. (a) What do you understand by GPS ? Write on the advantages and limitations of GPS.
2+4=6

(b) Differentiate between rester and vector data structure.

4

4. Interpret the given theme of the satellite image using visual interpretation techniques. Draw neat sketches as and where required.

5

5. The following table data gives the data for basin area and sediment load for some of the major rivers of the world.

| River | Area (million sq. km.) | Sediment Load (million tonnes/yr) |
|---|---|---|
| Magdalena | 0.24 | 220 |
| Irrawady | 0.43 | 260 |
| Brahmaputra | 0.61 | 540 |
| Colorado | 0.63 | 120 |
| Indus | 0.97 | 250 |
| Ganga | 0.98 | 520 |
| Orinoco | 0.99 | 150 |
| Yangtze | 1.90 | 480 |
| Mississipi | 3.3 | 400 |
| Amazon | 6.1 | 1200 |
| Hwang Ho | 0.77 | 1100 |
| Mekong | 0.79 | 160 |

Insert the data in a spread sheet and prepare a scatter diagram to show the relationship between area (X) and sediment loads (Y) in MS Excel 2007 software.
2

Add a trend line (Linear) to the plot and display the equation and $r^2$ values on the plot.
2

Add suitable heading, axis title and legend as and where required save the file with your Roll Number (no space in between) within the specified folder as per the instructions given.
1

P.T.O.

9/32-500

P - III (1+1+1) H/Pr/15 (NS)

2015

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - I

Full Marks : 50                                   Time : Four Hours

*The figures in the margin indicate full marks.*

1. Prepare a model schedule for collecting primary data through a socio economic survey to assess the status of public awareness in enrolling children in primary education in the block you reside.                                               5

2. The following data shows top fifteen most populous cities in the state of Odisha in 2011.

| City | Population |
|---|---|
| Bhubaneswar | 885363 |
| Cuttack | 610189 |
| Rourkela | 536450 |
| Berhampur | 356598 |
| Puri | 200564 |
| Sambalpur | 189366 |

P.T.O.

| Balasore | 177557 |
|---|---|
| Bhadrak | 121338 |
| Baripada | 116849 |
| Bolangir | 98238 |
| Jharsuguda | 97730 |
| Jeypore | 84830 |
| Baragarh | 80625 |
| Brajarajnagar | 80403 |
| Rayagada | 71208 |
| **Total** | **3707308** |

Calculate the theoretical population of the cities relating with its rank using Pareto's distribution (following Zipf, 1935).

5

Plot the actual and theoretical population distribution with a suitable scale.

4

Interpret the rank-size relationship of the given cities briefly.

1

3. (a) What do you mean by sun synchronous group of satellites ? Give example.

2+2=4

(b) What is NAVSTAR ?

2

(c) Distinguish between raster and vector data structure.

4

4. Interpret the given theme of the given satellite image using visual interpretation and measurement techniques along with required sketches.

5

5. The following data shows the growth of population by sex on different census years (1901 - 2001) in the district of Coochbehar.

| Year | Male | Female |
|---|---|---|
| 1901 | 300413 | 264703 |
| 1911 | 315536 | 275476 |
| 1921 | 314631 | 275968 |
| 1931 | 312265 | 276788 |
| 1941 | 339845 | 298858 |
| 1951 | 360670 | 308279 |
| 1961 | 539694 | 480112 |
| 1971 | 737931 | 676252 |
| 1981 | 915461 | 856182 |
| 1991 | 1122306 | 1048839 |
| 2001 | 1272094 | 1207061 |

Insert the data in a spreadsheet and prepare a suitable cartogram to represent the above data using MS Excel 2007 software.

3

Add heading, titles of the axis and configure the legend properly.

1

P.T.O

Save the file with your roll no (without space in between) as the file name within the specified folder as per the instruction given.

1

6. Import the given map as the compatible raster map (.mpr) of the *ILWIS (3.3 Academic or higher version)* software system. Save the output map with your roll no (without space in between) as the file name within the specified folder as per the instruction given.

3

Convert the map to a geo-referenced raster map with the help of available geo-reference tie points in the map using *ILWIS*. Geo reference name will also be your roll no (without space in between)

5

Note down the latitude and longitude of the point 'x' (marked with ⊕) on the map.

2

7. Laboratory note book and viva-voce. 3+2=5

———————

1. Prepare a model schedule for collecting primary data through a socio economic survey to assess nature of forest based livelihood of the tribal communities in your district. 5

2. The following data shows top fifteen most populous cities in the state of Assam in 2011.

| City | Population |
| --- | --- |
| Guwahati | 968549 |
| Silchar | 172709 |
| Dibrugarh | 138661 |
| Nagaon | 116355 |
| Tinsukia | 98798 |
| Bongaigaon | 68934 |
| Diphu | 63654 |

P.T

| Dhubri | 61660 |
|---|---|
| North Lakhimpur | 59793 |
| Tezpur | 58016 |
| Karimganj | 57585 |
| Goalpara | 53455 |
| Sivasagar | 50595 |
| Halflong | 42972 |
| Barpeta | 42663 |
| **Total** | **2054399** |

Calculate the theoretical population of the cities relating with its rank using Pareto's distribution (following Zipf, 1935).

5

Plot the actual and theoretical population distribution with a suitable scale.

4

Interpret the rank-size relationship of the given cities briefly.

1

3. (a) Note the use of GPS in geographical research. 4

(b) What do you mean by vertical and oblique types of aerial photographs ?

2+2=4

(c) What is EMR ?

2

4. Interpret the given theme of the given satellite image using visual interpretation and measurement techniques along with required sketches.

5

5. The following data shows the growth of population by sex on different census years (1901 - 2001) in the district of Hooghly.

| Year | Male | Female |
|---|---|---|
| 1901 | 1117332 | 1025828 |
| 1911 | 1307893 | 1152009 |
| 1921 | 1409572 | 1205501 |
| 1931 | 1549057 | 1315161 |
| 1941 | 1977485 | 1633411 |
| 1951 | 2415482 | 2044010 |
| 1961 | 3366805 | 2914110 |
| 1971 | 4488441 | 3961041 |
| 1981 | 2924329 | 2605168 |
| 1991 | 3818197 | 3463684 |
| 2001 | 4638756 | 4295530 |

Insert the data in a spreadsheet and prepare a suitable cartogram to represent the above data using MS Excel 2007 software.

3

Add heading, titles of both the axis and configure the legend properly.

1

Save the file with your roll no (without space in between) as the file name within the specified folder as per the instruction given.

1

P.T.O.

9/36-500

(4)

6. Import the given map as the compatible raster map (.mpr) of the ILWIS (3.3 Academic or higher version) software system. Save the output map with your roll no (without space in between) as the file name within the specified folder as per the instruction given.

3

Convert the map to a geo-referenced raster map with the help of available geo-reference tie points in the map using ILWIS. Geo reference name will also be your roll no (without space in between)

5

Note down the latitude and longitude of the point 'x' (marked with ⊕) on the map.

2

7. Laboratory note book and viva-voce.

3+2=5

—

9/22 - 50(

P - III (1+1+1) H/Pr/15 (NS)

2015

GEOGRAPHY (Honours)

Fifteenth Paper

(Practical)

[Revised New Syllabus]

Set - V

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Prepare a model schedule for collecting primary data through a socio economic survey to assess the status of sanitation system in your locality.

5

2. The following data table shows the distribution of agricultural labours and household industry workers among different blocks of Jalpaiguri District in 2001.

| Blocks | Total Population | Agricultural Labours | Household Industry Workers |
|---|---|---|---|
| | | | 2545 |
| Rajganj | 283967 | 16106 | 3145 |
| Jalpaiguri | 280927 | 33323 | 3078 |
| Maynaguri | 281700 | 28688 | |

P.T.O.

9/39-500

Scanned by CamScanner

( 2 )

| Dhupguri | 418461 | 31390 | 2986 |
| Mal | 265392 | 17783 | 1321 |
| Metiali | 105906 | 2737 | 480 |
| Nagrakata | 115907 | 5470 | 382 |
| Kumargram | 178047 | 15315 | 1850 |
| Falakata | 254273 | 25014 | 2058 |
| Madarihat-Birpara | 185470 | 5944 | 790 |
| Kalchini | 252571 | 6617 | 1111 |
| Alipurduar-I | 197231 | 18711 | 1195 |
| Alipurduar-II | 198984 | 22619 | 2777 |
| Total | 3018836 | 229717 | 23718 |

Represent the unequal distribution of agricultural labours and household industry workers in the district of Jalpaiguri, 2001 with the help of Lorenz Curve.     4+4=8

Interpret the distribution pattern briefly.     2

3. (a) What is GIS ? Explain its role in natural resource monitoring.     2+4=6

(b) What do you mean by pseudo vision in aerial photograph interpretation using *Mirror Stereoscope* ?     2

(c) Write your concept on DGPS.     2

4. Interpret the given theme of the given satellite image using visual interpretation and measurement techniques along with required sketches.     5

( 3 )

5. The following data shows the change of urban and rural population in the district of Dakshin Dinajpur, 1901-2001.
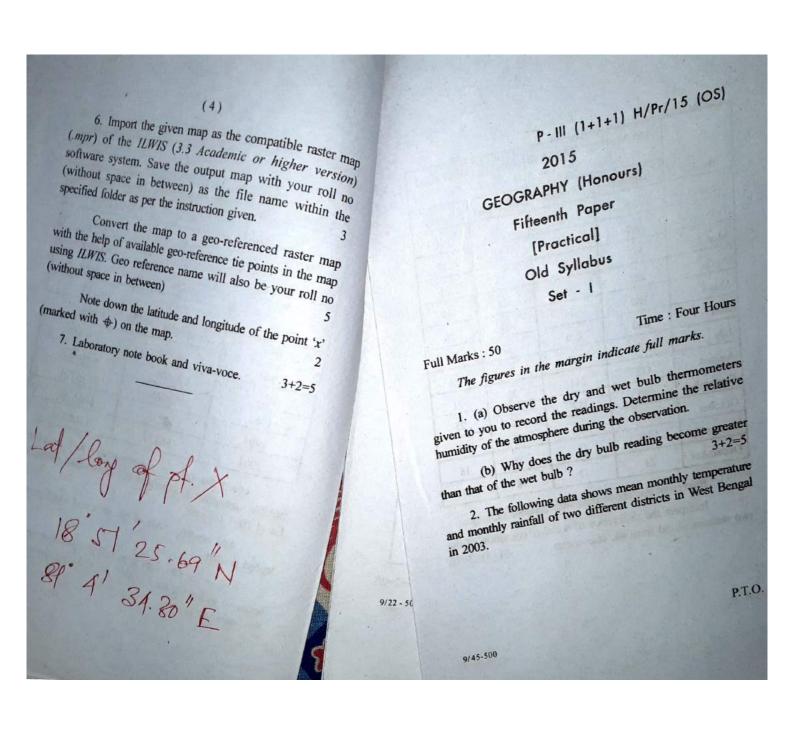
| Blocks | Urban Population | Rural Population |
| --- | --- | --- |
| 1901 | — | 741284 |
| 1911 | — | 791512 |
| 1921 | — | 695536 |
| 1931 | 5907 | 763182 |
| 1941 | 6952 | 844571 |
| 1951 | 41940 | 934942 |
| 1961 | 98969 | 1224828 |
| 1971 | 173690 | 1686197 |
| 1981 | 268726 | 2136221 |
| 1991 | 164225 | 1066383 |
| 2001 | 196854 | 1306324 |

Insert the data in a spreadsheet and prepare a suitable cartogram to represent the above data using MS Excel 2007 software.     3

Add heading, titles of the axis and configure the legend properly.     1

Save the file with your roll no (without space in between) as the file name within the specified folder as per the instruction given.     1

P.T.O.

9/39-500

(4)

6. Import the given map as the compatible raster map (.mpr) of the ILWIS (3.3 Academic or higher version) software system. Save the output map with your roll no (without space in between) as the file name within the specified folder as per the instruction given.

3

Convert the map to a geo-referenced raster map with the help of available geo-reference tie points in the map using ILWIS. Geo reference name will also be your roll no (without space in between)

5

Note down the latitude and longitude of the point 'x' (marked with ⊕) on the map.

2

7. Laboratory note book and viva-voce.

3+2=5

_____

Lat/long of pt. X

18° 57' 25.69" N

81° 4' 31.80" E

*The figures in the margin indicate full marks.*

1. (a) Observe the dry and wet bulb thermometers given to you to record the readings. Determine the relative humidity of the atmosphere during the observation.

(b) Why does the dry bulb reading become greater than that of the wet bulb ?

3+2=5

2. The following data shows mean monthly temperature and monthly rainfall of two different districts in West Bengal in 2003.

P.T.O.

P - III (1+1+1)H/Pr/15 (N)

2015

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - II

Full Marks : 50                                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given hand specimens (5) of rocks and mineral mentioning two properties of each them.    $2 \times 5 = 10$

2. (a) Distinguish between stratified sampling and systematic sampling ?

(b) Prepare a cumulative frequency distribution table.

Locate the median graphically by drawing ogives.

Rainfall Recorded (in mm.) of a raingauge station for 36 days.

| 10 | 12 | 15 | 11 | 60 | 46 | 38 | 25 | 20 | 18 | 16 | 26 |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 29 | 18 | 17 | 34 | 48 | 36 | 43 | 27 | 23 | 44 | 19 | 27 |
| 16 | 37 | 29 | 33 | 57 | 21 | 41 | 11 | 52 | 40 | 30 | 34 |

P.T.O.

(c) Find out Range from given table.

| Length (cm.) | Frequency |
|---|---|
| 20-24 | 3 |
| 25-29 | 6 |
| 30-34 | 13 |
| 35-44 | 8 |
| 46-49 | 2 |

(d) The following table shows the scores of two batsmans in 6 matches of tournament. Using suitable technique to state which cricketer or batsman is more reliable in the tournaments and why ?

| Matches | Score | |
|---|---|---|
| | Batsman - A | Batsman - B |
| 1 | 10 | 28 |
| 2 | 32 | 29 |
| 3 | 25 | 39 |
| 4 | 50 | 38 |
| 5 | 77 | 42 |
| 6 | 14 | 09 |

3+3+4+2+6+2=20

3. Draw a geological map along the section line (Set - II) and interpret it. What are the differences between true and apparent clip ? 10+3+2=15

4. Laboratory Note book and Viva-voce. 3+2=5

P - III (1+1+1)H/Pr/15 (N)

2015

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - II

Full Marks : 50                    Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given hand specimens (5) of rocks and mineral mentioning two properties of each them.     2×5=10

2. (a) Distinguish between stratified sampling and systematic sampling ?

(b) Prepare a cumulative frequency distribution table.

Locate the median graphically by drawing ogives.

Rainfall Recorded (in mm.) of a raingauge station for 36 days.

| 10 | 12 | 15 | 11 | 60 | 46 | 38 | 25 | 20 | 18 | 16 | 26 |
| 29 | 18 | 17 | 34 | 48 | 36 | 43 | 27 | 23 | 44 | 19 | 27 |
| 16 | 37 | 29 | 33 | 57 | 21 | 41 | 11 | 52 | 40 | 30 | 34 |

P.T.O.

(c) Find out Range from given table.

| Length (cm.) | Frequency |
|---|---|
| 20-24 | 3 |
| 25-29 | 6 |
| 30-34 | 13 |
| 35-44 | 8 |
| 46-49 | 2 |

(d) The following table shows the scores of two batsmans in 6 matches of tournament. Using suitable technique to state which cricketer or batsman is more reliable in the tournaments and why ?

| Matches | Score | |
|---|---|---|
| | Batsman - A | Batsman - B |
| 1 | 10 | 28 |
| 2 | 32 | 29 |
| 3 | 25 | 39 |
| 4 | 50 | 38 |
| 5 | 77 | 42 |
| 6 | 14 | 09 |

3+3+4+2+6+2=20

3. Draw a geological map along the section line (Set - II) and interpret it. What are the differences between true and apparent clip ?       10+3+2=15

4. Laboratory Note book and Viva-voce.       3+2=5

———

9/22 - 500

P - III (1+1+1)H/Pr/15 (N)

2015

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - IV

Full Marks : 50

Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given hand specimens (5) or rocks and minerals mentioning two properties of each them.    2×5=10

2. (a) What is secondary data ? What precautions would take before using secondary data ?

(b) Draw the histogram and the less than cumulative frequency polygon of the distribution given below.

Prepare frequency table for above graphical representation.

(c) Find out graphically the number of firms whose sales lie between £ 12,000,000 and £ 2600,000.

| Values of Sales (£'000) | Number of firms |
|---|---|
| 0-500 | 3 |
| 500-1000 | 42 |

P.T.O.

| | |
|---|---|
| 1000-1500 | 63 |
| 1500-2000 | 105 |
| 2000-2500 | 120 |
| 2500-3000 | 99 |
| 3000-3500 | 51 |
| 3500-4000 | 47 |
| 4000-4500 | 4 |

(d) If mean and median of a frequency distribution are 20 and 17 respectively find the mode.

(e) Find out standard deviation from the following data :

| $x$ : | 0-500 | 500-1000 | 1000-1500 |
|---|---|---|---|
| frequency : | 90 | 218 | 86 |

| $x$ : | 1500-2000 | 2000-3000 |
|---|---|---|
| frequency : | 41 | 15 |

1+2+3+3+3+2+2+4=20

3. Draw the geological map along section line (Set-IV) and interpret it. What is inlier.

10+3+2=15

4. Laboratory Note book and viva-voce.

3+2=5

___

P - III (1+1+1)H/Pr/15 (N)

2015

GEOGRAPHY (Honours)

Fourteenth Paper

(Practical)

[New Syllabus]

Set - V

Full Marks : 50                          Time : Four Hours

*The figures in the margin indicate full marks.*

1. Identify the given hand specimens (5) of rocks and minerals, mentioning two properties of each them.   2×5=10

2. (a) What is Probability Sampling ? Write its different methods.

(b) Prepare a frequency distribution table with the help of given data.

Draw ogive from the data set given below :

Calculate lower quartile and upper quartile from the data.

Rainfall recorded (in mm) of a rain-gauge station for 25 days.

| | | | | |
|---|---|---|---|---|
| 46 | 42 | 43 | 48 | 44 |
| 35 | 38 | 39 | 35 | 38 |
| 21 | 22 | 23 | 25 | 29 |
| 26 | 26 | 31 | 32 | 31 |
| 33 | 34 | 33 | 32 | 34 |

(c) If the value of S.D $(\sigma)$ of the set of observation 3, 5, 8, 7, 5, 7 is 1.675, then write down the S.D. of the following observation : 6, 10, 16, 14, 10, 14.

(d) From the following table calculate the co-efficient by Karl Pearson's method and interpret it.

$x$ : 6 2 10 4 8

$y$ : 9 11 ? 8 7

Arithmetic means of $x$ and $y$ series are 6 and 8 respectively.                1+2+3+3+2+2+1+5+1=20

3. Draw a geological map along the section line AB (Set - V) and interpret it. What is stratum contour ?

10+3+2=15

4. Laboratory Note Book and viva-voce.        3+2=5

———————