* Select and write one most appropriate option out of the four options given for each of the questions [48]

1. Map showing the distribution of forests.
   (A) Political map (B) Physical map (C) Thematic map (D) Colourful map.
   Ans. : (C) Thematic map
2. A scale is necessary.
   (A) for a plan (B) for symbols (C) for accuracy (D) for a map.
   Ans. : (D) for a map.
3. Grid is a network of:
   (A) lines of latitude
   (B) lines converging at the poles
   (C) total number of longitudes
   (D) parallels of latitudes and Meridians of longitudes.
   Ans. : (D) parallels of latitudes and Meridians of longitudes.
4. The longest circle drawn midway between the two poles.
   (A) The Prime Meridian (B) The Equator
   (C) The Tropic of Cancer (D) The Tropic of Capricorn.
   Ans. : (B) The Equator
5. The Equator does not pass through which of the following continents:
   (A) Europe (B) Africa (C) Asia (D) South America.
   Ans.: (A) Europe
6. What is a map?
   (A) A projection
   (B) A globe on paper
   (C) A drawing of the Earth's surface on a flat paper
   (D) None of the above
   Ans. : (C) A drawing of the Earth's surface on a flat paper
7. Which of the following is not a component of a map?
   (A) Distance (B) Direction (C) Sketch (D) Symbol
   Ans. : (C) Sketch
8. Scale is compulsory for
   (A) a globe (B) a map (C) a sketch (D) a symbol

Ans. : (B) a map

9. The arrow with 'N' on the map is used to depict ___.

(A) direction of North (B) direction of South

(C) direction of East (D) direction of West

Ans.: (A) direction of North

10. Which one of the following is not an intermediate direction?

(A) North-West (B) South-West (C) West (D) North-East

Ans. : (C) West

11. Cardinal points show the ____ in the map.

(A) distance (B) area (C) symbols (D) direction

Ans. : (D) direction

12. There is an international agreement to use .... .

(A) national symbols (B) conventional symbols

(C) local symbols (D) None of these

Ans. : (B) conventional symbols

13. Green colour in the map is used for showing

(A) mountains (B) rivers (C) plants (D) plains

Ans. : (D) plains

14. 'PO' in the map is a symbol of

(A) Post Office (B) Public Office (C) Private Office (D) Police Office

Ans.: (A) Post Office

15. What is the imaginary line that runs on the globe and divides the Earth into two equal parts?

(A) Axis (B) Equator (C) Tropic of Cancer (D) Prime Meridian

Ans. : (B) Equator

16. What is the latitude of the North Pole?

(A) 231 / 2° N (B) 661 / 2° N (C) 90° N (D) 0°

Ans. : (C) 90° N

17. Rajesh, a geography enthusiast, is studying the Earth's characteristics and geographic features. He is particularly interested in understanding the imaginary lines that help in locating places on the globe. Which of the following statements about latitude is incorrect?

(A) All parallel circles from the equator up to the poles are called parallels of latitudes.

(B) The distance from the equator to either of the poles is one-third of a circle around the Earth.

(C) All parallel circles from the equator up to the poles are called parallels of latitudes.

(D) The size of the parallels of latitude decreases as we move away from the equator.

Ans. : (B) The distance from the equator to either of the poles is one-third of a circle around the Earth.

18. In which hemisphere is Chandrapur (India) located, if it is at 20° N latitude?

(A) Northern Hemisphere (B) Southern Hemisphere

(C) Eastern Hemisphere (D) Western Hemisphere

Ans.: (A) Northern Hemisphere

19. What is the time difference between two locations for every 15° of longitude?

(A) 30 minutes (B) 1 hour

(C) 1 hour and 15 minutes (D) 45 minutes

Ans. : (B) 1 hour

20. The Earth takes how many minutes to cross a meridian?

(A) 15 (B) 60 (C) 4 (D) 20

Ans. : (C) 4

21. What is the Indian Standard Time (IST) meridian's longitude?

(A) 0° (B) 45° (C) 82° 30° (D) 180°

Ans. : (C) 82° 30°

22. When it is 4 pm in India, what is the time of Greenwich ?

(A) 10: 30 pm (B) 11:00 am (C) 10:30 am (D) 11:00 pm

Ans. : (C) 10:30 am

23. India is located in the_____ of Greenwich.

(A) East (B) North (C) West (D) South

Ans.: (A) East

24. How many time zones are there on the Earth?

(A) 12 (B) 24 (C) 36 (D) 48

Ans. : (D) 48

25. Identify the type of map being discussed below statements and mark the correct answer.

I. It is used to depict the elevation and relief of the land.

II. Rivers, lakes, oceans, seas and other water bodies are displayed.

(A) Thematic map (B) Physical map

(C) Political map (D) None of the above

Ans. : (B) Physical map

26. Arrange the following directions from right to left in chronological order supposing a man is standing facing North.
I. NE II. SW III. SE IV.NW
(A) I, II, III, IV (B) II, III, IV, I (C) IV, II, I, III (D) III, I, IV, II

Ans. : (B) II, III, IV, I

27. Which of the following statements is/are correct?
I. A globe is a representation or a drawing of the Earth's surface.
II. Plateaus, plains and rivers are shown in the. physical map.
III. Thematic map shows roads, rainfall and forests.
(A) I, II and III (B) I and II (C) II and III (D) I and III

Ans. : (C) II and III

28. Which of the following statements is/are correct?
I. The places situated East of Greenwich will be behind Greenwich time.
II. The distance between the meridians is the same everywhere.
III. Both latitudes and longitudes are required to find any location.
(A) Only I (B) Both I and II (C) I, II and III (D) Both I and III

Ans. : (D) Both I and III

29. Assertion (A) Globe is used when we study Earth as a whole.
Reason (R) Map is used when we study a part of the Earth.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true, but R is not the correct explanation of A
(C) A is true, but R is false
(D) A is false, but R is true

Ans.: (A) Both A and R are true and R is the correct explanation of A

30. Assertion (A) The Earth's equator plays a crucial role as a reference point for locating places on the globe.
Reason (R) The equator is an imaginary circular line that divides the Earth into two equal parts, namely the Northern Hemisphere and the Southern Hemisphere.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true, but R is not the correct explanation of A
(C) A is true, but R is false
(D) A is false, but R is true

Ans.: (A) Both A and R are true and R is the correct explanation of A

31. Assertion (A) Standard Time is necessary to address variations in local times across different meridians.
Reason (R) Local times on different meridians vary due to the Earth's rotation, making it challenging to create timetables for activities that involve crossing multiple longitudes.

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true, but R is not the correct explanation of A

(C) A is true, but R is false

(D) A is false, but R is true

Ans.: (A) Both A and R are true and R is the correct explanation of A

32. Assertion (A) The Earth completes one full rotation on its axis every 24 hours.
Reason (R) Each full rotation of the Earth equals 360 degrees.

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true, but R is not the correct explanation of A

(C) A is true, but R is false

(D) A is false, but R is true

Ans. : (B) Both A and R are true, but R is not the correct explanation of A

33. Assertion (A) At 30° W, the local time is 10 am , if it is 12 pm at Greenwich.
Reason (R) Moving Westward from the Prime Meridian, local time decreases by one hour for every 15°

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true, but R is not the correct explanation of A

(C) A is true, but R is false

(D) A is false, but R is true

Ans.: (A) Both A and R are true and R is the correct explanation of A

34. What is the purpose of a map?

(A) To show the weather.

(B) To reprefent an area and show how to get to different places.

(C) To show the names of countries.

(D) To list historical events.

Ans. : (B) To reprefent an area and show how to get to different places.

35. What do the four arrows at the top right of a map represent?

(A) Landmarks

(B) Cardinal directions

(C) Symbols

(D) Scale

Ans. : (B) Cardinal directions

36. Which of the following is a type of map that shows natural features like mountains and rivers?

(A) Political map (B) Physical map (C) Thematic map (D) Road map

Ans. : (B) Physical map

37. What does the scale on a map represent?

(A) The time zones

(B) The distance on the ground represented by a certain distance on the map

(C) The height of buildings

(D) The latitude and longitude

Ans. : (B) The distance on the ground represented by a certain distance on the map

38. What is the Prime Meridian also known as?

(A) The Equator (B) The International Date Line

(C) The Greenwich Meridian (D) The Tropic of Cancer

Ans. : (C) The Greenwich Meridian

39. Which one of the following is considered as true model of earth?

(A) Map (B) Globe (C) Ball (D) Apple

Ans. : B. Globe

Explanation.

It is three-dimensional scale model that accurately represents the Earth's spherical shape.

40. Net of latitudes and longitudes is also known as-

(A) Grid (B) Sketch (C) Plan (D) Report

Ans. : A. Grid

Explanation.

Latitudes and longitudes intersects at right angles to form a two-dimensional structure called grid.

41. _____ lies between Tropic of Cancer and Tropic of Capricorn.

(A) Frigid zone (B) Tropical zone (C) Temperate zone (D) None of these

Ans. : B. Tropical zone

Explanation.

Region between the Tropic of Cancer and Tropic of Capricorn is called a tropical zone.

42. Maps showing distribution of forests are called

(A) Physical maps (B) Thematic maps (C) Political maps (D) None of these

Ans. : B. Thematic maps

Explanation.

Maps that focus on specific information; such as road maps, rainfall maps, maps showing distribution of forests, industries etc., are known as thematic maps.

43. A compass is used to:

(A) show symbols
(B) find the main direction
(C) measure distance
(D) measure places

Ans. : B. find the main direction
Explanation.
A compass is a device that helps to determine geographical directions and used for navigation.

44. A scale is necessary

(A) for a map
(B) for a sketch
(C) for symbols
(D) for a plan

Ans. : A. for a map
Explanation.
A scale is necessary for a map as it shows the ratio between the distance on the map and actual distance on the ground.

45. Which is not a component of a map?

(A) Direction
(B) Symbol
(C) Scale
(D) Distance

Ans. : C. Scale
Explanation.
Direction, symbol and distance are me components of map.

46. The _____ zone receives the maximum amount of heat

(A) Torrid
(B) Frigid
(C) Temperate
(D) None of these

Ans. : A. Torrid
Explanation.
Torrid zone is situated between Tropic of Cancer and Tropic of Capricorn, and the area receives direct and vertical sunlight throughout the year.

47. The total number of longitudes is:

(A) 360
(B) 180
(C) 90
(D) 60

Ans. : A. 360
Explanation.
There are 360 longitudes because the Earth is 360° round.

48. Which is not an intermediate direction?

(A) North-east
(B) West
(C) South-west
(D) North-west

Ans. : B. West
Explanation.
West is cardinal direction opposite to the Earth's rotation on its axis.

* **Assertion - Reasoning based questions.** **[8]**

49. Assertion (A): A map shows a large area in detail.
Reason (R): Maps are drawn to scale, which helps in representing/arge areas accurately.
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(C) (A) is correct but (R) is wrong.
(D) (A) is wrong but (R) is correct.

Ans. : (C) (A) is correct but (R) is wrong.

50. Assertion (A): The Equator is the largest circlesiof latitude.
Reason (R): The Equator is halfway between the North Pole and the South Pole.
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(C) (A) is correct but (R) is wrong.
(D) (A) is wrong but (R) is correct.

Ans.: (A) Both (A) and (R) are true and (R) is the correct explanation of (A).

51. Assertion (A): Longitude helps in measuring time.
Reason (R): Longitude measures distance from the Prime Meridian.
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(C) (A) is correct but (R) is wrong.
(D) (A) is wrong but (R) is correct.

Ans. : (B) Both (A) and (R) are true but (R) is not the correct explanation of (A).

52. Assertion (A): A physical map shows countries and their boundaries.
Reason (R): A physical map includes natural features like mountains and rivers.
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(C) (A) is correct but (R) is wrong.
(D) (A) is wrong but (R) is correct.

Ans. : (D) (A) is wrong but (R) is correct.

53. Assertion (A): The International Date Wine helps in changing the date.
Reason (R): The International Date Line is located at 0° longitude.
(A) Both (A) and (R) are true and (R) is the correct explanation of (A).
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A).

(C) (A) is correct but (R) is wrong.

(D) (A) is wrong but (R) is correct.

Ans. : (C) (A) is correct but (R) is wrong.

54. Assertion: The political maps and the physical maps have no difference.
Reason: The political maps depict the towns and cities on the maps.

(A) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(C) Assertion (A) is true but, Reason (R) is false.

(D) Assertion (A) is false but, Reason (R) is true.

Ans. : D. Assertion (A) is false but, Reason (R) is true.
Explanation.
The physical maps show the relief features whereas, the political maps show the towns and cities.

55. Assertion: The standard meridian of India passes through is the 71° longitude.
Reason: The time of India is 5 h. 30 min. ahead of the Greenwich Meridian Time.

(A) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(C) Assertion (A) is true but, Reason (R) is false.

(D) Assertion (A) is false but, Reason (R) is true.

Ans. : D. Assertion (A) is false but, Reason (R) is true.
Explanation.
The standard meridian of India passes through is the $82^{\circ}30'E$ longitude

56. Assertion: The Tropic of Cancer and Tropic of Capricorn are near the poles.
Reason: India lies entirely in the Northern hemisphere.

(A) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).

(C) Assertion (A) is true but, Reason (R) is false.

(D) Assertion (A) is false but, Reason (R) is true.

Ans. : D. Assertion (A) is false but, Reason (R) is true.
Explanation.

India is entirely the part of the Northern hemisphere and Tropic of Cancer passes through several states in India.

*** Fill in the blank with correct answer.[1 Mark each]** **[20]**

57. The Earth rotates from _____ to _____

Ans. : West/East

58. Each degree of longitude corresponds to a time difference of _____ minutes.

Ans. : 4 minutes

59. International Date Line passes through the _____ Ocean.

Ans. : Pacific

60. Prime Meridian passes through Greenwich near _____.

Ans. : London

61. Standard Meridian of India _____.

Ans. : 82VT° E longitude

62. A _____ is used to find the main direction.

Ans. : compass

63. Maps provide more information than a _____.

Ans. : globe

64. The symbol for the Post and Telegraph Office is _____.

Ans. : PTO

65. The Northern half of the Earth is known as the _____.

Ans. : Northern Hemisphere

66. All parallel circles from the equator up to the poles are called _____.

Ans. : parallels of latitudes

67. A map is a _____ or a drawing of an area.

Ans. : representation

68. The four cardinal directions are North, _____ South, and West.

Ans. : East

69. _____ maps show natural features such as mountains and rivers.

Ans. : Physical

70. The Equator is at _____ degrees latitude.

Ans. : 0

71. The Prime Meridian is marked as _____ degrees longitude.

Ans. : 0

72. Write the full form of IST _____.

Ans. : Indian Standard Time

73. The zero degree meridian is also known as _____.

Ans. : Prime Meridian

74. The Arctic circle is located in the _____ hemisphere.

Ans. : Northern

75. The distance between the longitudes decreases towards _____.

Ans. : Poles

76. Railway lines, roads, boundaries are examples of _____.

Ans. : Conventional symbols

*** State if the following are true or false.[1 Mark each]** **[27]**

77. Distance between two points represented on maps depend on symbols and colours that a map is using.

Ans. : false

78. Both latitudes and longitudes are expressed in degrees.

Ans. : true

79. It takes the Earth 365 days to complete one spin on its axis called rotation.

Ans. : false

80. India's (Bharat's) Prime Meridian many centuries ago was called 'madhya rekha' and passed through the city of Ujjain.

Ans. : true

81. India's latitudes extras approximately from 8°N to 37°N and longitudes from 68°E to 97°E.

Ans. : true

82. The collection of maps is called Atlas.

Ans. : true

83. Political maps show the natural features of the Earth.

Ans. : false

84. There are five intermediate directions.

Ans. : false

85. Brown colour in the map is used to show plains.

Ans. : false

86. The Earth's axis is a physical line passing through the planet's centre.

Ans. : false

87. The Prime Meridian passes through New York.

Ans. : false

88. A globe is a flat representation of the Earth.

Ans. : false

89. Meridians of longitude are imaginary lines running from the North Pole to the South Pole.

Ans. : true

90. Latitude measures the distance from the Prime Meridian.

Ans. : false

91. A thematic map provides specific kinds of information, like population density.

Ans. : true

92. The time at a place in the East of Greenwich is ahead of that in Greenwich.

Ans. : true

93. The standard longitude for Indian time is the 64° longitude.

Ans. : false

94. More than half of India lies in the Frigid Zone.

Ans. : false

95. The two Temperate Zones maintain a moderate

Ans. : true

96. The Prime Meridian is the 180° longitude.

Ans. : false

97. A sketch is drawn to scale.

Ans. : false

98. All parallels of latitude have the same length.

Ans. : False; the size of latitude reduces as we move away from the Equator. This happens because of the Earth's spherical shape.

99. The length of a meridian of longitude is half of that of the Equator.

Ans. : True; since each meridian runs from pole to pole, they are all half the circumference of the Earth, while the Equator circles the entire Earth. Therefore, the length of a meridian of longitude is half of the length of the Equator.

100. The South Pole has a latitude of 90°S.

Ans. : True; the poles are marked as 90° and S shows the South direction.

101. In Assam, the local time and the IST are identical.

Ans. : False; Assam is East to the Prime Meridian of India hence, local time of Assam is before the Indian Standard Time.

102. Lines separating the time zones are identical with meridians of longitude.

Ans. : False; while time zones are based on the position of meridians, they can bend and shift to align with country borders and other considerations. So, although they follow the pattern of meridians, they are not perfectly identical.

103. The Equator is also a parallel of latitude.

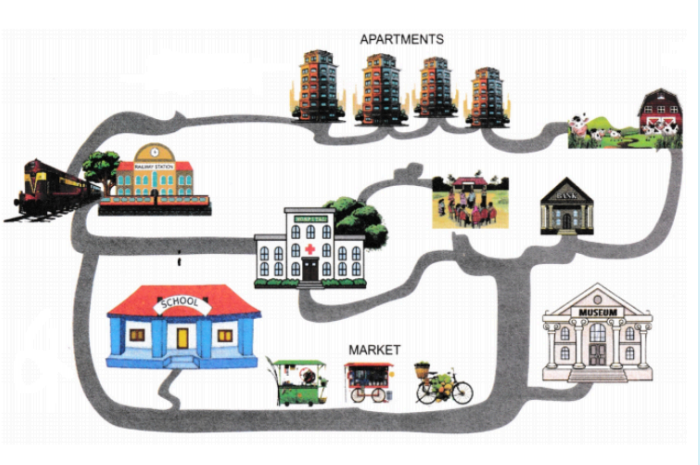
Ans. : True; all the latitudes are parallel in nature.

*** Answer the questions.[1 Mark each]** **[18]**

104. Do all countries have one standard time.
Give examples of any 2 countries which have more than one time zone.
Why do these countries have more time zones.

Ans. : • Not all but most countries have one time zone.
• Russia has 11 time zones and USA has 6 time zones.
• These countries have more time zones because of the longitudinal extent.

105. On the map given below



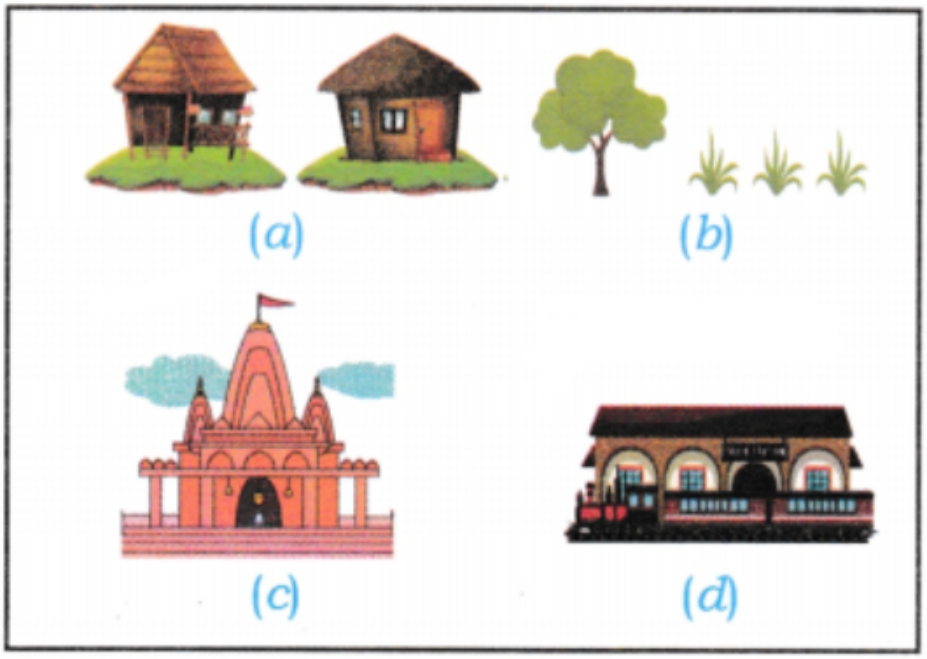
(a) Mark the hospital.
(b) What is the meaning of blue coloured areas?
(c) Which is farther away from the railway station - the school, the Nagar Panchayat or the public garden?

Ans. : (a) self
(b) The blue - coloured areas on the map show the water bodies like river and ponds.
(c) The public garden is farthest away from the railway station.

106. Now measure the diagonal of the rectangle. How many centimetres do you get?
Using the scale, calculate the real length of the playground's diagonal, in metres.

Ans. : The diagonal of the rectangle measures 5 cm. With the given scale of 1 cm = 10 m the real length of the playground's diagonal will be 50 m.

107. Draw a rough map of your locality or your village, including your home, school and a few other important landmarks. Show the cardinal directions and use a few of the symbols shown to mark some important features.



What do the following symbolise on a map?

Ans. : (a) Settlement
(b) Tree, grass
(c) Temple
(d) Railway Station

108. Using the same terms, write down your move if you play black and respond with the same move.

Ans. : The black side has just opened the game by moving the queen's pawn two squares forward. The pawn has moved from, d7 to d5

109. If the globe or atlas in your class has well-marked latitudes and longitudes, try to note down approximate values for the latitude and longitude of,
(1) Mumbai,
(2) Kolkata,
(3) Singapore,
(4) Paris.

Ans. : (1) Mumbal: $19^{\circ}N$ latitude and $72^{\circ}E$ longitude
(2) Kolkata: $23^{\circ}N$ latitude and $88^{\circ}E$ longitude
(3) Singapore: $1^{\circ}N$ latitude and $104^{\circ}E$ longitude
(4) Paris: $49^{\circ}N$ latitude and $2^{\circ}E$ longitude

110. Return to the two friends sitting in Gujarat and Assam. Use this example to explain the Difference in local time and standard time.

Ans. : One of the two friends is sitting in Porbandar (Gujarat) and the other in Tinsukia (Assam).

There is a difference in local time between both the two cities. Local time is the time based on the position of the Sun at a specific longitude or place. For example, since Assam is in the East of Gujarat, the Sun rises and sets earlier in Assam as compared to Gujarat.

Standard time on the other hand, is the official time set for a region or country, used to maintain uniformity. It is based on the standard meridian of the country. In India, both Gujarat and Assam follow Indian Standard Time (IST), which is the same across the country.

111. taking the scale to be 2.5cm = 500km calculate the real distance from the estuary of the Narmada River to the estuary of the Ganga river. (Hint: round off your measurement on the map to an easy number.)

Ans. : Distance between estuary of river Narmada and if river Ganga is 10 cms. So if 2.5 cms is equal to 500 kms as ground 10cms will be 500 km × 4 = 2000kms .

112. Delhi's and Bengaluru's latitudes are 29°N and 13°N; their longitudes are almost the same, 77°E. How much will be the difference in local time between the two cities?

Ans. : There will be no difference in the local times of the two cities. The difference in time depends on the difference in longitudes. If Delhi and Bengaluru are almost on the same longitude there will be no difference in local time between the two cities.

113. Is Greenwich the 1st prime meridian?

Ans. : No

114. What was India's prime meridian centuries ago?

Ans. : Madhya Rekha' (or middle line).

115. The ancient India's own prime meridian passed through which old city?

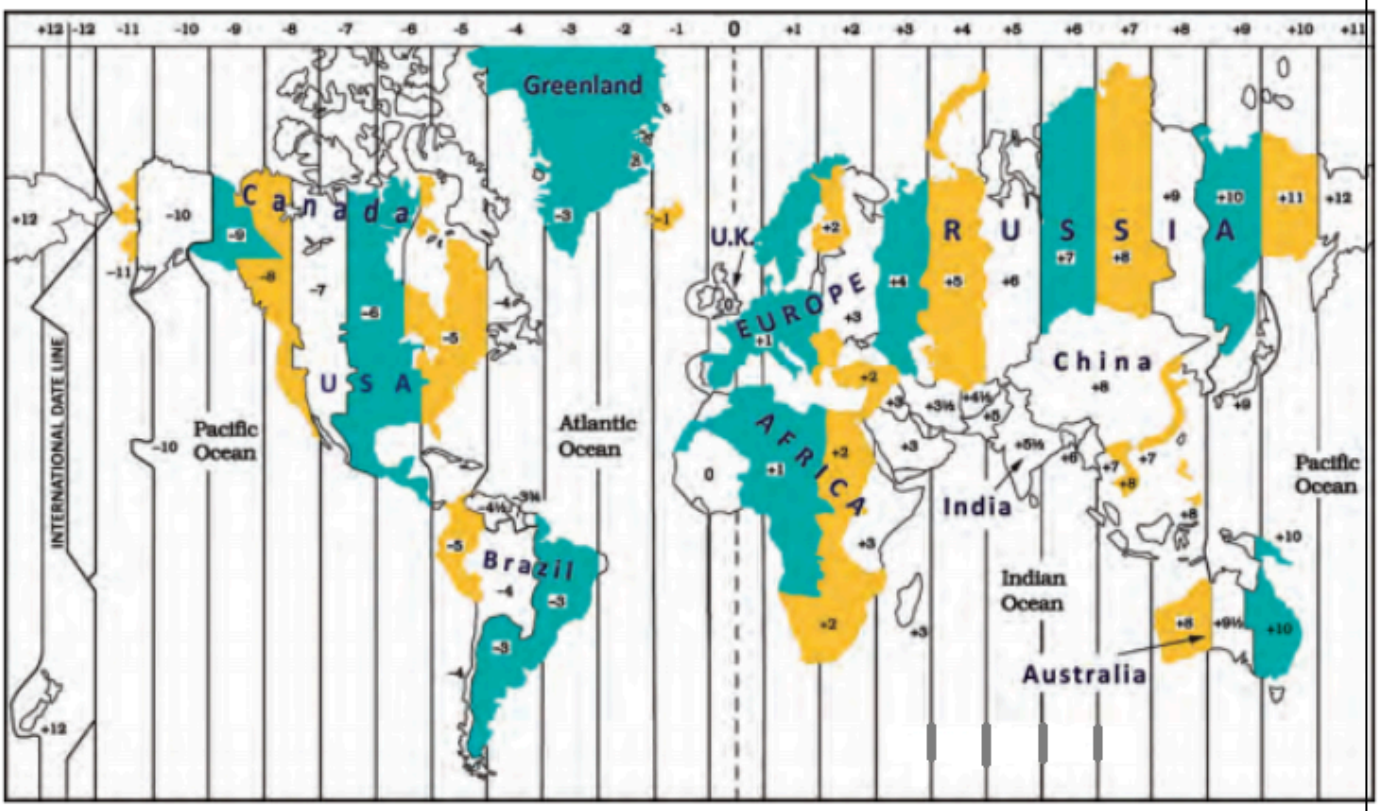
Ans. : Ujjayini (today's Ujjain).

116. Why was this meridian famous?

Ans. : It was a reference for calculations in all Indian astronomical texts.

117. Give the name of the famous Indian astronomer who lived 1500 years ago in the city

Ans. : Varahamihira.



118. If you were studying different types of maps, which type would primarily show natural features like mountains and rivers?

Ans. : Physical maps are primarily used to show natural features like mountains and rivers.

119. How would you describe the system that divides the world into different time zones based on longitudinal lines?

Ans. : The system that divides the world into different time zones based on longitudinal lines is known as time zones.

120. How do the concepts of longitudes help in understanding time zones and what is the effect on local time when crossing different longitudinal lines?

Ans. : Longitudes are important for understanding time zones because the Earth is divided into 24 time zones, each 15° of longitude apart.
As you move East or West across these zones, local time changes by one hour for each 15° shift. For instance, if it is noon in London (0° longitude), it will be 1 pm in a location 15° East and 11 am in a location 15° West.

121. The grid system of latitudes and longltudes can be used to pinpoint locations on a globe. Explain with an example of how this system can be applied.

Ans. : The grid system of latitudes and longitudes divides the Earth into a network of intersecting lines that help locate specific points.
For example, by combining latitude 40° N with longitude 74° W, you can pinpoint

New York City on a globe. This grid system provides a precise method for identifying any location on Earth, enabling accurate navigation and mapping.

*** very short answer questions. [2 Mark each]** **[28]**

122. As you can see on the globe of meridians of longitudes, 180°W and 180°E are the same longitude; so this longitude is noted 180°, omitting the letter W or E.

Ans. :

• Yes the 1800 longitude is not marked 180° E or 180°W as other meridians East or West of the Prime Median (0°).
• The 180° longitude is called the International Date Line opposite the Prime Meridian.
• Crossing the IDL changes the date by one day.
• If you cross to its East you add a day.
• If you cross to its West you subtract a day.
• You would have heard people say they reached the US from India on the same day because for the US we have to cross the imaginary IDL. While India has to the East of the IDL USA is to the West of the IDL 0°.

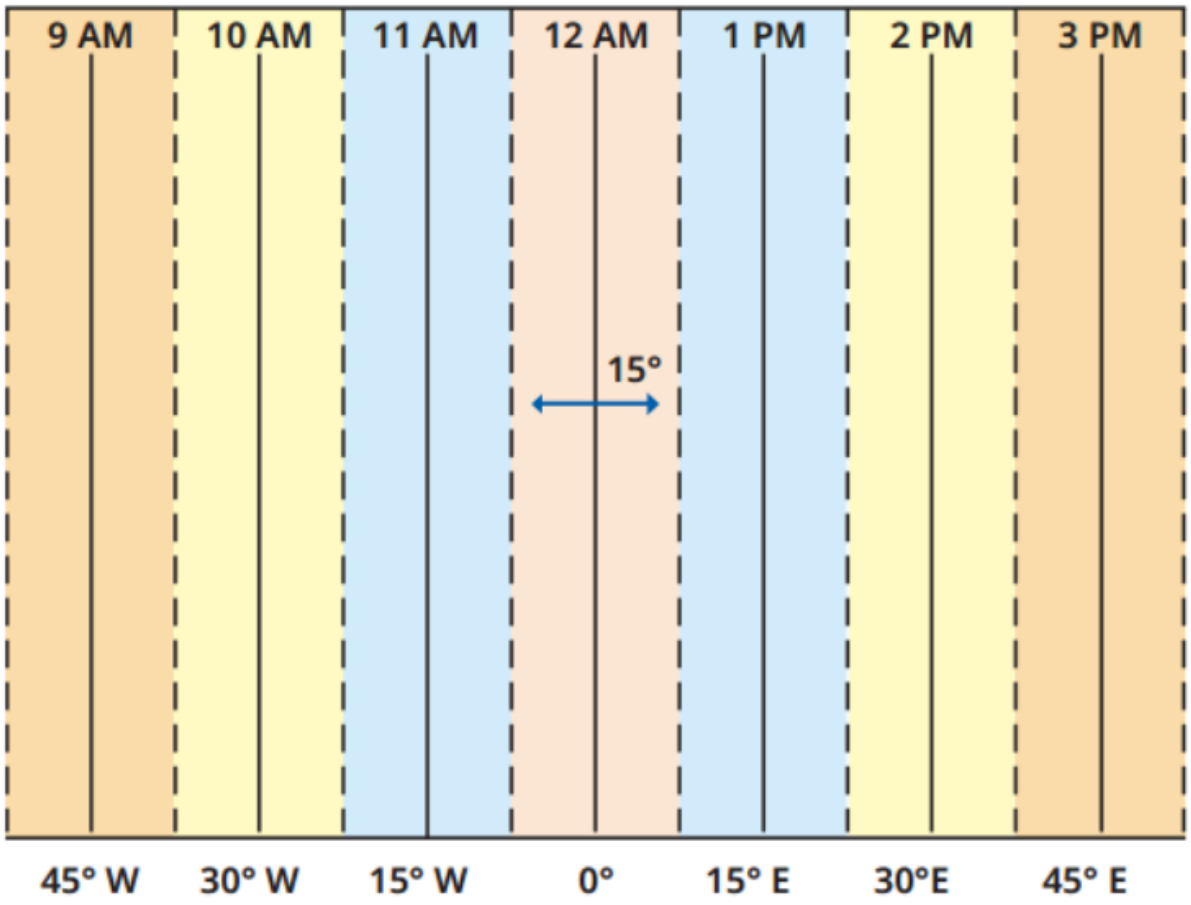
123. Draw a simple map of a school's playground. Let us assume it is a rectangle, 40 m in length and 30m in width. Draw it precisely with your ruler on a scale of 1cm = 10m

Ans. : When the scale is 1 cm = 10 m, it means every 1 cm on the map is 10 m on the ground.

124. Two friends, one sitting in Porbandar (Gujarat) and the other in Tinsukia (Assam), are speaking on the phone late afternoon. The latter remarks that the sun has set in Assam and it's now dark. The former is surprised and says, uBut it's still full daylight here. 1" Explain why. And, as a class actimty, calculate the difference in local time between those two Cities. (Hint: for now, consider the difference in longitude between Porbandar and Tinsukia to be 30°; later, you can find out the precise value.)

Ans. : Explanation: There is a difference of 30° between Porbandar (Gujarat) and Tinsukia (Assam). That is the local time difference is 4 min x 30° =120 minutes or 2 hours. Also the sunrises in Assam (Tinsukia) before it doesn't Gujarat (Porbandar) as Assam is in North East of India and Gujarat in West of India.
The time both cities follow is the 1ST set at 82V2° E. SO while the standard time is the same the sun rise and sun set follows local time.

Calculation :
Tinsukia is 30° East of Porbandar
Since 1 ° = 4 minutes
30° = 4 minutes x 30 = 120 min.
= 120 minutes ÷ 6Q = 2 hours.
The time difference in local time is of 2 hours.



125. Why is it 5:30 pm in India when it is 12 pm or noon. in London?

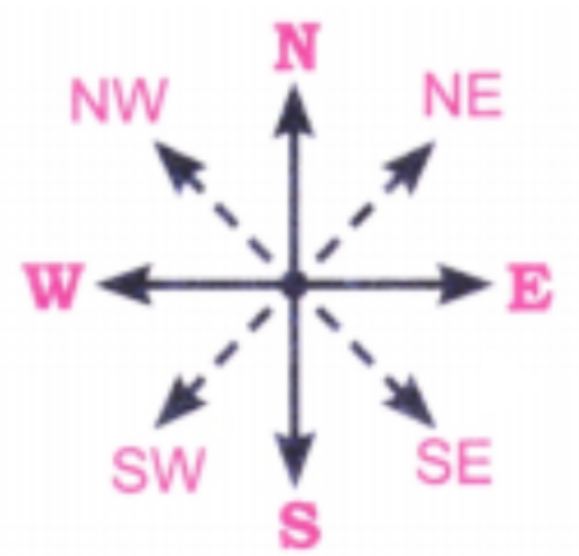
Ans. : India is 5 hours and 30 minutes ahead of London because of the difference in time zones. The Earth is divided into 24 time zones and each time zone is 1 hour apart from its neighbouring time zones. Since India is to the East of London, it is ahead of time.
So, when it is 12:00 PM (noon) in London, it is already 5:30 PM in India.

126. Why do we need symbols and colours in the map?

Ans. : We need symbols and colours on a map to make it easier to represent the real features of the Earth. Symbols represent different features like cities, rivers, police stations and temples while colours help show different areas like countries, forests and oceans.

127. Find out what you have in the eight directions from your home or school.

Ans. : Example: South Extension II in New Delhi.



- North : INA Market
- North East : Defence Colony
- East : Nature Basket
- South East : Gautam Nagar
- South : Asiad Village
- South West : Ansal Plaza
- West : Yusuf Sarai

128. What is the difference between local time and standard time? Discuss it in groups, with each group writing an answer in 100 to 150 words. Compare the answers.

Ans. : • Both local time and standard time are based on meridiAnswer :
• Local.time is based on the local meridian passing through that place. The places lying North and South on the same meridian will have the same local time. On the other hand the places lying East or West of that meridian will have different local

times. It varies by 4 minutes for every 1° of Prime meridian East or West. While in the East it is plus 4 minutes going West from Prime Meridian it is 4° behind. (If it is 12 noon at Greenwich it would be 12.04 pm in the 1° East and 11.56 a.m. in the 1° west).

• Standard time is local time of a meridian of longitude which is considered valid for the whole country. This meridian is called Standard Meridian of the country. Example in Indian Standard Meridian is 82 ½°E and time on it is Indian Standard Time (1ST)

129. What is a map and how do we use it? What are its main components?

Ans. : Map is a representation or drawing of an area of the Earth on a fiat surface whether small or large - say of a district or village or very large area like India or even the world at a specific scale.

• One map contains many facts.

• Collection of maps is called an Atlas.

Maps can be used to represent details of areas and features of the Earth.

Examples:

• Physical Maps: Physical features of the Earth such as mountains, oceans, rivers, plains and plateaus

• Political Maps: Political division of the Earth countries, states, boundaries, capital, cities, villages etc.

• Thematic Maps: Specific information like rainfall, forests, minerals, roads, industries, population density etc.

• The main components of maps are :

• Distance

• direction and

• symbols.

130. What are coordinates? How can latitude and longitude be used to mark any location on the Earth?

Ans. : • Coordinates are two numbers or sometimes a letter and a number (Example: Chess board) that locate a specific point on a grid.

• On a map latitudes and longitudes are referred to as two coordinates of a place. They provide systematic network of lines (grid lines) upon which the position of various surface features of the Earth can be represented, located and identified.

• Latitudes are horizontal lines that measure distance North and South of the equator. Longitudes are vertical lines that measure East or West of the Prime Meridian. But there exists only one point where they intersect. By combining these two coordinates and identifying the point of intersection of latitudes and longitudes one can mark and locate any location on the earth.

131. Explore the different elements of a map, such as symbols, scales and legends. How do these elements contribute to the effectiveness of a map as a tool for

conveying geographical information?

Ans. : A map's effectiveness in conveying geographical information depends on various elements: symbols scales and legends. Symbols are graphical representations of physical and human-made features, such as mountains, rivers, cities and roads.

These symbols provide a visual shorthand, making complex information accessible at a glance. The scale indicates the relationship between distances on the map and actual distances on the ground, allowing users to measure and understand real-world distances accurately.

Legends, or keys, explain the meaning of symbols and colours used on the map, ensuring that users can interpret the information correctly. Together, these elements transform a map into a powerful tool for understanding and navigating the geographic landscape, whether for everyday use, academic study or professional application.

132. Evaluate the role of atlases in modern education and research. What types of information do they typically contain, and how do they help users understand complex geographical data?

Ans. : Atlases play a vital role in modern education and research by providing comprehensive collections of maps that cover a wide range of geographical data.

Typically, an atlas contains physical maps showcasing landforms and bodies of water, political maps highlighting boundaries and cities and thematic maps presenting information on climate, population and economic activities.

These diverse maps enable users to explore and analyse complex geographical phenomena from multiple perspectives. In educational settings, atlases help students develop spatial awareness and understand global interconnections.

In research, they serve as invaluable references for geographic information, supporting studies in fields such as environmental science, history and urban planning. By offering a wealth of detailed, curated data, atlases facilitate a deeper understanding of the world's physical and human landscapes.

133. Why is globe considered the perfect representation of the Earth? Give reasons.

Ans. : A globe represents the three dimensional view of the Earth. Earth it is spherical in shape and can correctly represents the geography of the Earth shape of oceans, and continents correctly.

1. It also shows there correct relation to one another as they are on the earth.
2. The distances based on scale and directions of places are fairly correct on the globe.
3. A globe gives us a better idea of parallels of latitudes and meridians of longitude.
4. It helps us to understand how day and night occur and how seasons are caused.

134. Discuss different types of maps and their specific uses.

Ans. : Maps are indispensable tools for understanding both geographical and political landscapes. The different types of maps are as follows

Physical maps depict natural features such as mountains, rivers and forests, helping us comprehend the terrain and environment of a region.

Political maps focus on human-made boundaries, showcasing countries, states and cities, which are crucial for understanding geopolitical divisions and administrative areas.

Thematic maps present specific data like population density, climate patterns, or economic activities, providing insights into various aspects of human and natural phenomena.

135. Analyse the importance of latitude and longitude in navigation and global positioning. Describe how these coordinates are used to locate places on Earth and explain their role in time zone determination.

Ans. : Latitude and longitude are essential for navigation and global positioning, forming a coordinate system that . uniquely identifies any location on Earth. Latitude lines run parallel to the Equator, measuring distances North or South, while longitude lines run from the North to the South Pole, measuring distances East or West of the Prime Meridian.

These coordinates enable precise location pinpointing for navigation, aviation and mapping technologies like GPS. For example, the coordinates 40.7128°N (latitude) and 74.0060°W (longitude) identify New York City. Additionally, longitude plays a key role in time zone determination. The Earth is divided into 24 time zones, each covering 15 degrees of longitude, aligning with the planet's 24-hour rotation cycle. As one travels East or West across these zones, local time changes by one hour for every 15 -degree shift, ensuring synchronised time keeping globally.

*** Answer short answer questions. [3 Mark each]** **[12]**

136. How are local time and standard time related to longitude?

Ans. : Longitudes are related to local time and standard time as they help us to calculate time.

• Time is measured by the movement of the earth.

• The earth spins on its axis West to East making a full turn of 360° in 24 hours (rotation).

• This means 15° per hour (15° x 24 = 360°) or say 4 minutes for one degree of longitude.

• Accordingly the earth has been divided into 24 time zones of one hour each.

• Moving eastwards from the Prime Meridian we get 12 time zones, 15° apart example: 0°, 15°E, 30°E etc. and likewise westwards (example 0°, 15°W, 30°W).

• Each place has different time of sunrise and sunset.

• Places east of Prime Meridian/ Greenwich Meridian experience sunrise (day) earlier

than places lying west of the Meridian.

Local time of a place is based on the longitude of that place i.e. local time varies when places are situated on different meridians.

• To solve confusion in a country every country fixes its central meridian, passing through them as the standard meridian. The standard times are organised in time zones of 15° or 7.5°.
• The local time of the meridian is considered standard for the whole country. It is called standard time.
• Example: In India the longitude of 82 ½° E is treated as the standard meridian. The local time of the Meridian is known as Indian Standard Time (IST).
•Through an international, agreement, the local time of all places is linked to the Greenwich Mean Time. The IST is 5 hours 30 minutes ahead of GMT.
• Both local and standard time are related to longitude.
Local time refers to the time of a place as defined by the apparent motion of the Sun. Standard time is agreed time of places along the same meridian established by law in the same country.
While local time changes continuously as longitude changes, the standard time stays-the same for a specific nation.

137. It is the third important component of a map. It is not possible to draw on a map the actual shape and size of different features such as buildings, roads, bridges, trees, railway lines or a well. So, they are shown by using certain letters, shades, colours, pictures and lines.
These symbols give a lot of information in a limited space. With the use of these symbols, maps can be drawn easily and are simple to read. Even if you don't know the language of an area and therefore cannot ask someone for directions, you can collect information from maps with the help of these symbols.
Maps have a universal language that can be understood by all. There is an international agreement regarding the use of these symbols. These are called conventional symbols.

(i) Which component of the map is useful for representing the features like buildings, roads, bridges, trees or railway lines?
(ii) Mention any one benefit of using the symbols in the map.
(iii) Why are different features shown by symbols on a map?

Ans. : (i) The symbols are useful in representing the features like buildings, roads, bridges, trees or railway lines on a map.
(ii) The maps use universal symbols, so even if you don't understand the language of an area you will be able to understand the directions using a map.

(iii) Different features such as buildings, roads, bridges, railway lines, etc. cannot be shown on a map due to their size. That is why, they are shown by symbols.

138. How do physical and political maps differ in terms of the information they present and their applications? Provide detalled examples of each type of map and discuss their relevance in various fields.

Ans. : Physical and political maps differ fundamentally in the information they present and their applications. These are

Physical Maps	Political Maps
Physical maps focus on natural features, depicting mountains, valleys, rivers and other landforms with colours and shading to indicate elevation and terrain.	Political maps emphasise human-made boundaries, showing countries, states, cities and administrative divisions.
These maps are essential in fields like geology, environmental science and outdoor recreation, where understanding the physical landscape is crucial.	These maps are vital in political science, international relations and education, helping users understand geopolitical structures and governance.
For example, a physical map of the Himalayas highlights the region's peaks, valleys and glaciers, aiding in scientific studies and mountaineering expeditions.	For example, a political map of Europe, delineates national borders and capital cities, providing insights into the continent's political landscape and historical changes.

139. What is standard time?

Ans. : Standard Time :

1. Local time of a place is based on the longitude of that place. It means places situated on different meridians will have different local times.
2. It creates much confusion and problem for people to function in a country.
3. It is 1 hour and 45 minutes time difference in the local time between Dwarka (Gujarat) and Dibrugarh (in Assam).
4. To solve these problems every country fixes its central meridian, which is considered the standard meridian of that country.
5. The local time of this meridian is considered standard for the whole country. It is called standard time.
6. In India, the longitude of 82 Vi° E (82° 30° E) is treated as the standard meridian.
7. The local time of this meridian is followed all over the country.
8. This is known as Indian Standard Time (IST).

9. Through an international agreement, the local time of all places is linked to the Greenwich Mean Time (GMT). Different places have different times.

*** Long answer questions [4 Mark each]** **[8]**

140. Consider the map of the small city again. Identify the correct and incorrect statements in the list below:
(i) The market is north of the hospital.
(ii) The museum is south-east of the bank.
(iii) The railway station is north-west of the hospital.
(iv) The lake is north-west of the apartment blocks.

Ans. : (i) Incorrect
(ii) Incorrect
(iii) correct
(iv) correct

141. The best means of measuring time is by the movement of the Earth, the Moon and the planets. The Sun regularly rises and sets every day and naturally, it is the best time-keeper throughout the world. Local time can be reckoned by the shadow cast by the Sun, which is the shortest at noon and longest at sunrise and sunset. When the Prime Meridian of Greenwich has the Sun at the highest point in the sky, all the places along this meridian will have mid-day or noon.
As the Earth rotates from West to East, those places East of Greenwich will be ahead of Greenwich time and those to the West will be behind it. The rate of difference can be calculated as follows. The Earth rotates 360° in about 24 hours, which means 15° an hour or 1° in four minutes. Thus, when it is 12 noon at Greenwich, the time at 15° East of Greenwich will be 15 × 4 = 60 minutes, i.e., 1 hour ahead of Greenwich time, which means 1 pm but at 15° West of Greenwich, the time will be behind Greenwich time by 1 hour, i.e., it will be 11.00 am Similarly, at 180°, it will be mid-night when it is 12 noon at Greenwich.

(i) How is local time affected in places East of Greenwich ?
(a) Local time is behind Greenwich time.
(b) Local time is ahead of Greenwich time.
(c) Local time is the same as Greenwich time.
(d) Local time is not affected.

(ii) How is local time determined according to the passage ?
(a) By the movement of the Moon.
(b) By the shadow cast of the Sun.
(c) By the rotation of the planets.
(d) By the position of the Prime Meridian.

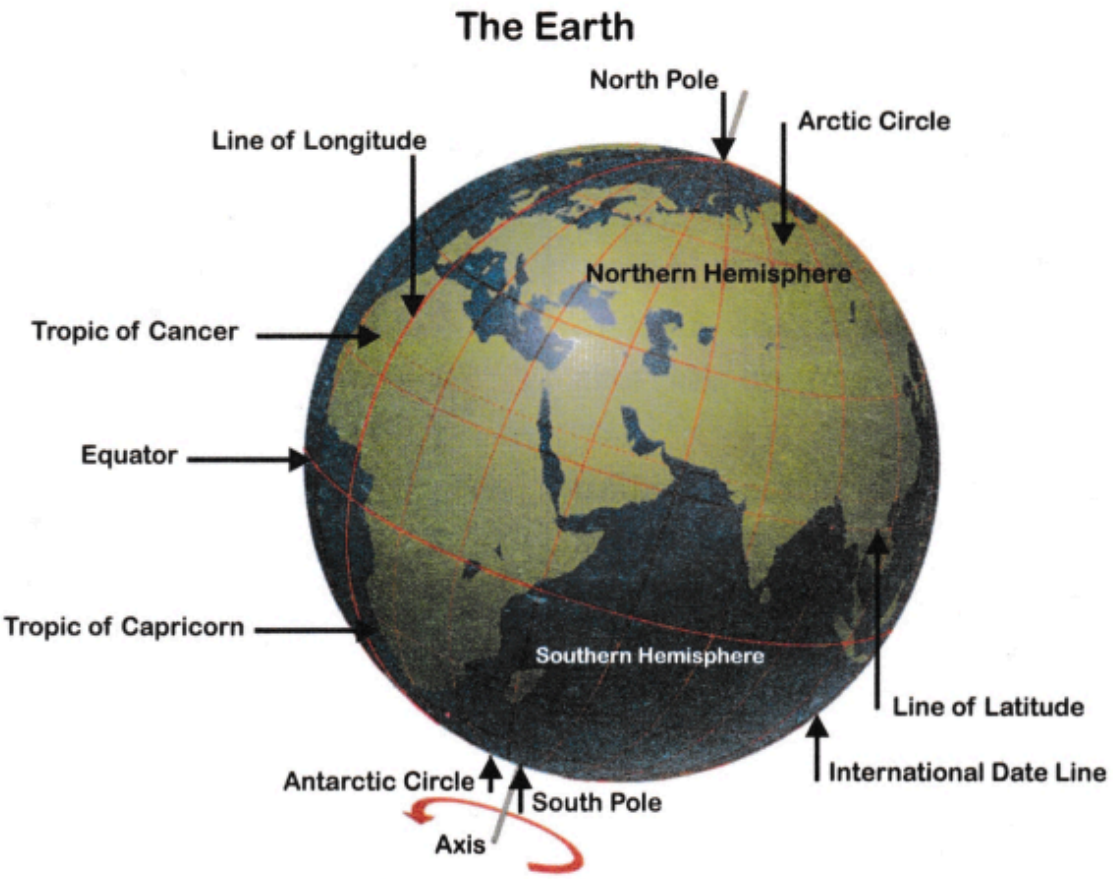
(iii) How does the Earth's rotation affect time in different places ?
(a) It causes variations in local time.
(b) It determines the length of the day.
(c) It influences the movement of the Moon.
(d) It creates differences in sunrise and sunset times.

(iv) How is the time difference calculated between two locations, according to the passage ?
(a) By the length of the day.
(b) By the Earth's revolution around the Sun.
(c) By multiplying the distance by 4 minutes.
(d) By calculating the Moon's position.

Ans. : (i) Local time is ahead of Greenwich time.
(ii) By the shadow cast of the Sun.
(iii) It causes variations in local time.
(iv) By multiplying the distance by 4 minutes.

*** Long answer questions [5 Mark each]** **[5]**

142.



(i) What is the value of the Prime Meridian?
(ii) Which important latitude passes nearly midway through India?
(ii) India lies in which hemisphere.
(iv) What is an equator?

(v) What is the latitudinal value of the Tropic of Cancer?
(vi) What is the name given to the top half of the globe?

Ans. : (i) 0° Longitude
(ii) Tropic of Cancer.
(iii) Northern Hemisphere.
(iv) An equator is an imaginary line running horizontally on the globe dividing it into two equal halves.
(v) The Tropic of Cancer lies 231/2° north of the equator.
(vi) Northern Hemisphere.

*** case - based/data -based questions** **[8]**

143. A globe can be useful when we want to study the earth as a whole. But, when we want to study only a part of the earth, as about our country, states, districts, towns and villages, it is of little help. In such a situation we use maps. A map is a representation or a drawing of the earth's surface or a part of it drawn on a flat surface according to a scale. But it is impossible to flatten a round shape completely. We find that maps are useful to us for various purposes. One map shows a small area and a few facts. Another map may contain as many facts as a big book. When many maps are put together we get an Atlas. Atlas is of various sizes, measurements drawn on different scales. Maps provide more information than a globe. They are of different types. Some of them are described below. Maps showing natural features of the earth such as mountains, plateaus, plains, rivers, oceans, etc., are called physical or relief maps. Maps showing cities, towns and villages, and different countries and states of the world with their boundaries are called political maps. Some maps focus on specific information, such as road maps, rainfall maps, maps showing distribution of forests, industries, etc., are known as thematic maps. Suitable titles are given on the basis of information provided in these maps.

Q.1._____ is the representation of the earth's surface drawn on a flat surface according to a scale,
(a) Map (b) Globe (c) Plan (d) Scale

Q.2.Atlas is known as:
(a) Globe
(b) Collection of different maps
(c) Both (a) and (b)
(d) None of the above

Q.3.Which maps show the natural features of the earth such as mountains, plateaus, plains, rivers, oceans, etc.?
(a) Physical maps
(b) Relief maps
(c) Both (a) and (b)

(d) None of these

Q.4.What does political map show?

(a) It shows natural features of the earth

(b) It shows cities, towns and villages with boundaries

(c) It shows rainfall, distribution of forests, etc.

(d) None of the above

Ans. : 1.A. Map

Explanation.

A map is a representation or a drawing of the earth's surface or a part of it drawn on a flat surface according to a scale.

2.B. Collection of different maps

Explanation.

When many maps are put together we get an Atlas. Atlases are of various sizes, measurements drawn on different scales.

3.C. Both (a) and (b)

Explanation.

Maps showing natural features of the earth such as mountains, plateaus, plains, rivers, oceans, etc., are called physical or relief maps.

4.B. It shows cities, towns and villages with boundaries

Explanation.

Maps showing cities, towns and villages, and different countries and states of the world with their boundaries are called political maps.

144. Our planet earth is not a sphere. It is sliehtlv flattened at the North and the South Poles and bulges in the middle. Can you imagine how it looks? You may look at a globe carefully in your classroom to get an idea. Globe is a true model (miniature form) of the earth. On the globe, countries, continents and oceans are shown in their correct size. It is difficult to describe the location of a point on a sphere like the earth, a needle is fixed through the globe in a tilted manner, which is called its axis. Two points on the globe through which the needle passes are two poles – North Pole and South Pole. The globe can be moved around this needle from west to east just as the earth moves. But, remember there is a major difference. The real earth has no such needle. It moves around its axis, which is an imaginary line. Another imaginary line running on the globe divides it into two equal parts. This line is known as the Equator. The northern half of the earth is known as the Northern Hemisphere and the southern half is known as the Southern Hemisphere. They are both equal halves. Therefore, the equator is an imaginary circular line and is a very important reference point to locate places on the earth. All parallel circles from the Equator up to the poles are called parallels of latitudes. Latitudes are measured in degrees.

Q.1.Which among the following are shown on the globe in their true size?

(a) Countries (b) Continents (c) Oceans (d) All of these

Q.2.A needle fixed through the globe in a tilted manner is called as:
(a) orbit (b) axis (c) latitude (d) longitude
Q.3.An imaginary line that divides globe into two equal parts is known as:
(a) Tropic of Cancer (b) Arctic Circle (c) Tropic of Capricorn (d) Equator
Q.4.Northern half of the earth is known as:
(a) Northern hemisphere
(b) Southern hemisphere
(c) Equator
(d) None of the above

Ans. : 1.D. All of these

Explanation.

Globe is a true model (miniature form) of the earth. On the globe, countries, continents and oceans are shown in their correct size.

2.B. axis

Explanation.

A needle is fixed through the globe in a tilted manner, which is called its axis. Two points on the globe through which the needle passes are two poles – North Pole and South Pole.

3.D. Equator

Explanation.

Imaginary line running on the globe dividing it into two equal parts. This line is known as the Equator.

4.A. Northern hemisphere

Explanation.

Imaginary line running on the globe divides it into two equal parts. This line is known as the Equator. The northern half of the earth is known as the Northern Hemisphere.

* **Match the following.** **[25]**

145.

Column A	Column B
1. Coordinates	a. Scale
2. Distance	b. North
3. Cardinal directions	c. Latitudes and Longitudes
4. Axis	d. Model of Earth
5. Globe	e. 23½°

Ans. :

Column A	Column B
1. Coordinates	c. Latitudes and Longitudes
2. Distance	a. Scale
3. Cardinal directions	b. North

4. Axis	e. 23½°
5. Globe	d. Model of Earth

146.

List I (Symbols)	List II (Representation)
A. PS	1. North-East
B. Red	2. Plateau
C. Yeliow	3. Police Station
D. NE	4. Graveyard

Ans. :

List I (Symbols)	List II (Representation)
A. PS	4. Graveyard
B. Red	1. North-East
C. Yeliow	2. Plateau
D. NE	3. Police Station

147.

List I (Symbols)	List II (Representation)
A. Equator	1. The line that divides the Earth into two halves.
B. Cardinal points	2. Point to four directions (North, East, South and West)
C. Uijayini	3. Indian Prime Meridian
D. Prime Meridian	4. Accepted by all nations as the International Standard Time

Ans. : self

148.

1. Latitude	(a) 0° longitude
2. Prime Meridian	(b) Halfway between poles
3. Equator	(c) Measures distance from the Equator
4. Meridians of longitude	(d) Grid lines on a globe
5. Scale	(e) 0° longitude

Ans. :

1. Latitude	(c) Measures distance from the Equator
2. Prime Meridian	(a) 0° longitude
3. Equator	(e) 0° longitude
4. Meridians of longitude	(d) Grid lines on a globe
5. Scale	(b) Halfway between poles

149.

1. Tropic of Cancer	(i) 661/2° S of the Equator
2. Tropic of Capricorn	(ii) Torrid zone
3. Arctic Circle	(iii) 23 1/2° S in the Southern Hemisphere

4. Antarctic Circle	(iv) $231/2^{\circ}$ N in the Northern Hemisphere
5. Equator	(v) $661/2^{\circ}$ N of the Equator

Ans. :

1. Tropic of Cancer	(iv) $231/2^{\circ}N$ in the Northern Hemisphere
2. Tropic of Capricorn	(iii) $231/2^{\circ}S$ in the Southern Hemisphere
3. Arctic Circle	(v) $661/2^{\circ}N$ of the Equator
4. Antarctic Circle	(i) $661/2^{\circ}S$ of the Equator
5. Equator	(ii) Torrid zone

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