I. Choose the correct answer: 5x½=2½

1. Inscription that mentions the Cheras _____.

    a) Pugalur   b) Girnar   c) Pulimankombai   d) Madurai

2. The sunda trench lies in the _____ ocean.

    a) Atlantic   b) Pacific   c) Indian   d) Antarctica

3. Ocean currents are produced due to _____.

    a) rotation of earth   b) variation in temperature

    c) earth's movement   d) all the above

4. Assertion: The number of gorillas in Africa has plummeted by

   60% in the past twenty years.

    Reasons: Non intervention of human beings in the forest areas.

    a) Both assertion (A) and reason (R) are true; (R) explains (A)

    b) Both assertion (A) and reason (R) are true; (R) does not

        explain (A)

    c) (A) is true; (R) is false

    d) Both (A) and (R) are false

5. _____ is the smallest unit of Biosphere.

    a) Ecosystem   b) Biome

    c) Environment   d) None of the above

II. Fill in the blanks: 4x½=2

6. A planned town with brick architecture and proper layout is

    known as _____.

7. Neythal refers to _____region.

8. _____ confluence with Gulf stream creates fog and hinders
    navigation.

9. _____ are also called heterotrophs.

III. Match the following: 5x½=2½

11. Arikkamedu   -   22nd April

12. Great Barrier Reof   -   8th June

13. Sargasso sea   -   North Atlantic Ocean

14. Earth Day   -   Australia

15. World Oceans Day   -   Sangam age port

IV. Answer any three of the following: 3x2=6

16. Overseas interactions brought glory to ancient Tamilagam.
      Give example in support of the answer.

17. What is Urban Centre?

18. What is Hydrological cycle?

19. What are saprotrophs?

V. Distinguish between: 2x1=2

20. Savannas and Tundras.

21. Tropical vegetation and desert vegetation.

VI. Give reasons: (2)

22. Biosphere provides a stable ecosystem.

VII. Answer the following caption: 1x4=4

23. Industries and crafts of Sangam age.

    a) What were the important aspects of urbanisation?

    b) What is the Tamil name for a potter?

    c) What were the different types of pottery used by the people?

    d) Identify the Iron implements required for agriculture and
        warfare.

VIII. Answer any one of the following: 1x4=4

24. To what extent do you think the political powers of Tamilagam
     influenced Sangam age polity?

25. Explain the influences of marine resources on mankind.

MATHS - PART-III

I. Choose the correct answer: 6x½=3

I. Degree of the constant polynomial is _____.
 a) 3   b) 2   c) 1   d) 0

2. The zero of the polynomial $2x+5$ is _____.
 a) $\frac{5}{2}$ b) $\frac{-5}{2}$ c) $\frac{2}{5}$ d) $\frac{-2}{5}$

3. If p(a)=0, then $(x-a)$ is a _____ of p(x).
 a) divisor   b) quotient
 c) remainder   d) factor

4. The mean of the square of the first 11 natural number is _____.
 a) 26   b) 46   c) 48   d) 52

5. Let 'm' be the midpoint and 'b' be the upper limit of a class in a continuous frequency distribution. The lower limit of the class is _____.
 a) 2m-b   b) 2m+b   c) m-b   d) m-2b

6. For which set of numbers do the mean, median and mode all have the same values?
 a) 2,2,2,4   b) 1,3,3,,3,5   c) 1,1,2,5,6   d) 1,1,2,1,5

II. Answer any three of the following: 3x2=6

7. Factorize: $x^2+10x+24$

8. Write the Co-efficient of x^2 and x in $6-2x^2+3x^3-\sqrt{7x}$

9. What is the remainder when $x^{2018}+2018$ is divided by x-1

10. Find the median of the given data:
    36,44,86,31,37,44,86,35,60,51

11. In a week, a temperature of a certain place is measured during winter are as follows.
    26°C, 24°C, 28°C, 31°C, 30°C, 26°C, 24°C. Find the mean temperature of the week.

12. Add: $6x^2-7x+2$ and $6x^2-7x+15$

III. Answer any two of the following: 2x5=10

13. Find the mode of the following distribution.

Marks	0-10	10-20	20-30	30-40	40-50
Number of students	22	38	46	34	20

14. Akshaya has 2 rupee coins an 5 rupee coins in her purse. If in all she has 80 cons totalling ₹220. How many coins of each kind does she have?

15. Using algebraic identity, find the Co-efficient of x^2,x and constant term without actual expansion. $(x+5)$ $(x+6)$ $(x+7)$

16. Determine the value of m, if $(x+3)$ is a factor of $x^3-3x^2-mx+24$.

IV. Graph: 1x6=6

17. Draw the graph of y=3x-1

PHYSICS - PART-II

I. Choose the correct answer: 4x1=4

1. When beam of white light passes through a prism it gets _____.
 a) reflected   b) only deviated   c) deviated   d) dispersed

2. The mirror used in search light is _____.
 a) Convex   b) Concave   c) Biconvex   d) Biconcave

3. The speed of light is maximum in _____.
 a) vacuum   b) glass   c) diamond   d) water

4. What is the radius of curvature of a concave mirror whose focal length is 5cm?
 a) 5cm   b) 10cm   c) 15cm   d) 20cm

II. Answer any five of the following: 5x2=10

5. State true or false. If false correct the statement.
   When an object is at the centre of curvature of concave mirror the image formed will be virtual and erect.

6. Why does a ray of light bend when it travels from one medium to another?

7. Pick out the concave and convex mirrors from the following and tabulate them.
   Rear view mirror, Dentists mirror, Torch light mirror, Mirrors in shopping malls, Make up mirror.

8. What is the speed of light in vacuum?

9. Match the following:
   a) Ratio of height of image to
        height of object   -   Convex mirror
   b) Used in hairpin bends
        in mountains   -   Total internal reflection
   c) Mirage   -   Concave mirror
   d) Used as Dentist Mirror   -   Magnification

10. The speed of light in air is $3 \times 10^8 ms^{-1}$ and in glass it is $2 \times 10^8 ms^{-1}$. What is the refractive index of glass?

11. What are the two conditions to achieve total internal reflection.

12. Write the spherical mirror formula and explain the meaning of each symbol used in it.

III. Answer any one of the following: 1x4=4

13. What is meant by magnification? Write its expression what is its sign for real image and virtual image?

14. A concave mirror produces three times magnified real image of an object placed at 7cm in front of it. Where is the image located?

IV. Answer any one of the following: 1x7=7

15. Explain with diagrams how refraction of incident light takes place from
   a) rarer to denser medium
   b) denser to rarer medium
   c) normal to the surface separating the two media

16. a) Find the size, nature and position of the image formed when an object of size 1cm is placed at a distance of 15cm from a concave mirror of focal length 10cm.

I. Choose the appropriate synonym of the underlined word: 2x1=2

1. I had never batted in the nets before and felt somewhat overawed with so many people around.
   a) daunt   b) unawed   c) unmoved   d) indifferent

2. My induction into the Mumbai cricket circuit could have ended in failure - but for Ajit's insistence _____.
   a) discharge   b) initiation c) removal   d) close

II. Choose the appropriate antonym of the underlined word: 2x1=2

3. By far the cheapest form of internal transport in a country is by boats and barges through canals and rivers.
   a) flat boat   b) coast   c) glide   d) waft

4. Such plantation would directly and indirectly prove a source of wealth to the country.
   a) boundless   b) limited   c) immense   d) bounded

III. Do as directed: 3x1=3

5. Choose the most appropriate preposition from the given word:
   Ranjana has worked in this institution as an accountant _____ 24 years.
   a) for   b) since   c) on   d) during

6. Choose the correct form of the present perfect verb from the options given:
   _____ ever eaten a Kiwi fruit?
   a) Had you   b) Have been you
   c) Have you   d) Has you

7. Choose the correct homophone and fill in the blank:

   Students were _____ to play cricket. (allowed/aloud)

VI. Quote from Memory: 1x3=3

8. My little ....
    .... shake
              (or)
    On you rush ....
    .... river !

V. Answer any three of the following in brief: 3x2=6

9. How can you check soil erosion?

10. What is the imaginary elixir of life?

11. What is the main cause of soil erosion?

12. What was special about Shardashram Vidhyamandir in
    Mumbai?

13. Which incident triggered the coach to be angry on Sachin?

VI. Answer any one in a paragraph of about 100 words: 1x3=3

14. a) Narrate in your own words the hardships underwent
       by Sachin to become a great cricketer.

    b) Describe how the poem clearly describes about the features,
       functions and destructive power of the river.

VII. Develop the following hints into a paragraph: 1x3=3

15. A bee - falls - tank - a dove - flies - drops - leaf - the water -
    the bee - on the leaf - flies away - a boy - at bird hunting - aims
    - dove - the bee stings - he misses his aim - dove flies - dove is
    saved.

VIII. Answer any one in a paragraph of about 100 words: 1x3=3

16 . a) The old farmer was a kind person. Justify.

     b) Describe the appearance of Little Cyclone.