

# TAMILNADU MATRICULATION BOARD – X TSD

## Model Question Paper – 2006

Time : 2 ½ hours

ENGLISH PAPER – I

Maximum Marks : 100

### PART – A

**I Answer any three of the following questions in about 30 words each. Each question carries two marks**

$$3 \times 2 = 6$$

1. Who had to leave the forest after the tortoises? Why were they asked to go?
2. How does the female Ridley prepare her nest?
3. What according to Joan was the will of God?
4. What is it that the spectators at a race fail to understand?

**II Explain any two of the following excerpts with reference to the contest. Each question carries three marks:**

$$2 \times 3 = 6$$

5. Work is wholesome, and there is plenty for everyone; it keeps us from boredom and mischief,.....
6. A reasonable consideration for the rights or feelings of others is the foundation of social conduct.
7. When material is in profusion, the mind gets lazy and leaves everything to it, forgetting that for a successful feast of joy its internal equipment counts far more than the external.
8. Never regard your study as a duty, but as, enviable opportunity.....

**III Answer any two of the following each in a paragraph of about 100 words**  **$2 \times 5 = 10$**

9. What were the awful things that started happening in Pambapatti?
10. Why did Mrs. March pretend to be ill? What was its result?
11. Explain ‘Turtle Walk’ and state how it helps conserving Olive Ridleys.
12. How could one’s individual liberty pave way to an ideal social order?

**IV Answer either of the following each in about 200 words. Each question carries ten marks:  $1 \times 10 = 10$**

13. How does Tagore compare his boyhood with that of a modern child?
14. Present a character sketch of Joan as portrayed in the prescribed text.

### PART – B

**V Answer any three of the following questions each in not more than 30 words each:  $3 \times 2 = 6$**

15. What is the central idea of the poem ‘Say Not, The Struggle Naught Availeth?’
16. Did Mrs. Bird succeed in crossing the road? What happened to her?
17. Mention at least four aspects of life the ‘Yet to be born’ child is afraid to face.
18. What does the poet Subrahmanya overhears want to do once he gains his will?

**VI Answer the questions which follow any two of the excerpts from the prescribed poems:  $2 \times 3 = 6$**

19. *But pleasure like a cuckoo roams,*  
Makes much acquaintance, no friends true.  
Explain the figure of speech in the poem.

20. *And when I came, she stood, alone*

A woman, turned to stone:

- i) Why did the speaker go to see the woman ?
- ii) What does the poet mean by ‘turned to stone’?
- iii) Identify the rhyming words.

21. I will make you brooches and toys for your delight of bird – song at morning and star line at night.

- i) Name the poet of the above lines
- ii) What are brooches?
- iii) To whom is the poem addressed?

22. No, I promised to love you, dear,

But I must be leaving.

- i) Who speaks these words?
- ii) What was the question for which this was the reply?
- iii) Why does the speaker want to leave?

VII **Answer any two of the following each in about 100 words:**

**$2 \times 5 = 10$**

23. How did the girl behave when the stone cutter was at work?

24. What makes the poem ‘Without Due Care’ a humorous satire on law and justice?

25. Why does Louis Neice express concern for the ‘Yet to be born’ and what does he expect out of nature ?

26. How does W.H.Davies bring out the qualitative differences between Joy and Pleasure in his poem.

VIII 27. **Quote from memory either of the following :**

**5**

For back, through creeks .....  
..... the land is bright.

OR

Pleasure’s a Moth .....  
..... its sweet hour.

### **PART – C**

IX **Choose the appropriate response which conveys a similar meaning to the underlined word / phrase in the main sentence :**

28. It was the smell of *rot*

- i) The roots of the tree were small.
- ii) The decayed leaves and flesh have a bad odour.
- iii) The spring bring sweet smelling flowers.

29. The face *threat* from sharks.

- i) The punishment is too severe to undergo
- ii) There is a great risk of danger in climbing this steep hill.
- iii) When the thief brandished a knife fear could be seen on the face of the tourists.

30. No words could be invented for such supreme happiness, *eclipsing* all other feelings.
- This displeasure increased as the argument went on .
  - The pain was not felt when we reached the summit and jumped with joy.
  - Nothing can reduce your sorrow of failure.
31. The magnetic compass, probably *sparked* the genius in Albert .....
- The lightening struck a tree and that caused the forest fire.
  - The diamond ring threw brilliance around in the show case.
  - The timely guidance from my teacher was responsible for my innovative approached to the experiment.
32. Mrs. March received her *repast* with thanks, and laughed heartily over it after Jo was gone.
- One should have at least a full meal daily.
  - My mother received the gift by parcel.
  - Compliments make people happy.

**X Choose the best antonyms of the italicized words from the alternatives given with each sentence.**

**$5 \times 1 = 5$**

33. I am only passionately *curious*  
 i) careless ii) disinterested iii) suspicious iv) calm
34. His men are *cowed* now  
 i) encouraged ii) elated iii) humbled iv) snubbed
35. The *release* of hatchlings is over before day break  
 i) imprisonment ii) dismissed iii) getting discharged iv) custody
36. Makara would not *give in*  
 i) surrender ii) yield iii) revolt iv) argue
37. By what right, my dear sir, you go along our highways uttering that *hideous* curse on all who impede your path  
 i) decent ii) beautiful iii) soft iv) angry

**XI Use any two of the following words min sentences of your own :**

**$2 \times 1 = 2$**

38. Siesta  
 39. Siege  
 40. Culinary

**XII Use any two of the following phrases in sentences of your own :**

**$2 \times 1 = 2$**

41. Set about  
 42. back up  
 43. look down

**XIII Fill in the blanks choosing the right alternative given in brackets:**

**$2 \times 1 = 2$**

44. I could not \_\_\_\_\_ (practice / practice) the game before the match  
 45. I tell you, there are no eggs. There will be \_\_\_\_\_ (nun / none)

**XIV a) Use one word for the Phrasal verb or idioms italicized in either of the following**

46. She *tore up* all the letters he had sent her 1

The thief *vanished into thin air* during the chase

Use a Verbal Phrase or an idiom in the place of the italicized in either of the following sentences

47. *He resisted the attack* strongly when he encountered the robbers.

The important documents are in safe custoday

**PART – D**

**XV Rewrite as directed .Marks are indicated against each item.**

48. Contact me immediately on your arrival at the Airport (Change into complex sentence) 1  
(Or)

The pair of shoes were so cheap that I decided to buy them (Change into compound sentence)

49. They confessed their involvement in the conspiracy (Change into complex sentence) 1  
(Or)

I like my friends yet I do not visit them during examination days (Change in to simple sentence)

50 .The Government had declared Monday a Holiday (Change the voice) 1  
(Or)

Let the students not be disturbed. (Change the voice)

51. Deccan plateau is one of the hottest places in India (Rewrite into positive degree) 1  
(Or)

Very few teachers are as punctual as Mrs.Sheela. (Rewrite into positive degree) 1

52. He spoke very well (Change into exclamatory sentence) 1  
(Or)

You can not return the book in a week,..... ? (Supply a question tag)

53. I asked her to report at 9.00 a.m. She does not know the reason (combine in to simple sentence)  
(Or)

The gangster robbed the lady and killed her later (combine in to complex sentence)

54. My father asked the man that why he was late. (Correct the sentence) 1

55. Identify the type of clauses in the given sentence 2

I do not know, why I was transferred to Mumbai where there is no chance of promotion.

56. **Fill in the blanks with appropriate articles :** 2

The hatchling are so tiny that they can fit into \_\_\_\_\_ palm of \_\_\_\_\_ adult. If one could touch the nose of \_\_\_\_\_ hatchling one would find projection that is sharp.

**57. Fill in the blanks with appropriate prepositions**

2

Just \_\_\_\_\_ the window \_\_\_\_\_ this room was a tank \_\_\_\_\_ a flight of masonry steps leading down \_\_\_\_\_ the water.

**58. "What a dreadful day this had been "! began Jo ,usually the first to speak.**

2

" It has seemed shorter than usual, but so uncomfortable , " said He (Rewrite in reported form of speech)

**59. Well prem said the old man have you fallen asleep (Punctuate the sentence)**

2

**60. Fill in the blanks with the correct tense form of the verbs given in brackets :**

3

Elders \_\_\_\_\_ (become) cheap to modern children : they \_\_\_\_\_ (be) too readily.

**61. 'No ,I cannot give any reason – (Frame a suitable question)**

(Or)

I completed my work last week (Wh – question)

**62. Identify the Sentence pattern**

My father the Sentence Pattern

**63. Form a sentence on the given pattern**

SVOC

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# TAMILNADU MATRICULATION BOARD – X TSD

## Model Question Paper – 2006

Time : 2  $\frac{1}{2}$  hours

### ENGLISH PAPER – II

Maximum Marks : 100

#### PART – A

I **Rearrange the following in logical sequence and rewrite in a paragraph using connectors wherever necessary** 5 + 5

1. Grandfather caught hold of the Ostrich's wings
2. He became exhausted and the ostrich was upon him
3. All of a sudden, the ostrich took to his heels
4. Both the men and the ostrich kept on circling
5. The ostrich closed in after him.

II **Read the given passage and answer the questions given below in a sentence or two** 10

His mother had picked up a piece of the fish, and was flying across to him with it. He leaped out eagerly, tapping the rock with his feet, trying to get nearer to her as she flew across. But when she was just opposite to him ,abreast of the ledge, she halted, her legs hanging limp, her wings motionless ,the piece of fish in her beak almost within the reach of ‘ his ‘ back .He waited a moment in surprise ,wondering why she did not come nearer, and then, maddened by hunger ,he dived at the fish. With a loud scream he fell outward and downward into space. His mother had swooped upwards. As he passed beneath her he heard the swish of her wings. Then a monstrous terror seized him and his heart stood still .He could hear nothing .But it only lasted a moment. The next moment he felt his wings spread outward.

1. What was the problem of ‘The Young Seagull ‘?
2. What was the plan of the ‘mother seagull’?
3. Did the mother succeed in her plan?
4. Pick out any two words / phrases associated with flying
5. What made the eagerness of the young seagull change into surprise?

III **Answer any two of the following in essay of 200 words :**  $2 \times 10 = 20$

1. ‘Wisdom comes with the age ‘ – Elucidate with reference to the story ‘An Old man’s Ageless Wisdom ‘.
2. Write an essay on the clues that helped Sherlock Homes to solve the mystery of missing proofs.
3. Imagine that you were one of the students who had an encounter with the bear and narrate your experience.
4. Narrate how Sivagami was able to bring about a change in the attitude of her father in the story ‘Clear Sky’ .

## **PART – B**

**IV** *Write a Precis of the following passage reducing it to one third of its length* **10**

Of course, humans live in symbiosis with trees too: trees take in the carbon dioxide people and their machines make and turn it into needed oxygen. And we plant and care for trees in return for the any benefits they confer on us. In some countries researches are now experimenting with agro-forestry-the planting of crops between rows of special trees. *Gliricidia Sepium*,for example, is a Central American tree that grows well even in poor ,dry soil it produces leaves that farmers can feed to cattle, and has roots they enrich the soil with nitrogen. The trees protest crops from wind and prevent soil erosion. When cut for firewood, they sprout new growth from the remaining stem. trees are a link to the past and bridge to the future.

V *Study the graph below and answer the questions* 5

## Export Performance – Tata Steel

## PERIOD

## **Questions: -**

1. What does the graph represent?
  2. Which year has the lowest performance?
  3. The increase in export during the last year is greater than the total export during ....  
Complete
  4. What does each bar represent
  5. Which year had the maximum increase in exports from the previous year ?  
(Or)

*Read the following passage and complete the notes given below*

In the Serengeti National Park, which was established sixty years ago in the heart of Africa, one can have the last glimpse of the old, Wild Africa as it was before the coming of Europeans. In the Serengeti grass is life and the herds of different species of animals are always on the move looking for new pastures .The wild beasts have multiplied to about two million .During the seasonal migration, the animals march in columns from horizon and take three days and nights to cross this Tanzanian plains.

**VI**      *Rewrite each of the following sentences correctly*

5

- 1) He flap his wings
  - 2) Principal heard the grating sound of metal against wood
  - 3) One day Sivagami told to her father about Susai's request
  - 4) Mr.Hamel wrote in the board 'Long Live France'
  - 5) His need for rice and provisions made him to decide to sell the bananas.

**VII     *Read the given poem and answer the questions given below :***

10

May there always be tigers  
In the Jungles and tall grass  
May the tiger's roar be heard  
May his thunder  
Be known in the land  
At the forest pool, by moonlight  
May he drink and raise his head  
Scenting the night wind  
May he crouch low in the grass  
When the herdsmen pass,  
And slumber in dark caverns  
When the sun is high  
May there always be tigers  
But not so many, that one of them  
Might be tempted to come in to my room  
In search of a meal.

- Ruskin Bond

### **Questions: -**

- i) What is the poem about ?
  - ii) What happens when the herdsmen appear ?
  - iii) What does the tiger do during noon ?
  - iv) How do the first four lines differ from the last four lines ?

v) What are the places frequented by tigers ?

(Or)

*Paraphrase the Poem given below :*

Last night, as I lay sleepless  
In the summer dark  
With window open to invite a breeze  
Softly a firefly flew in  
And circled round the room,  
Twinkled at me from floor or well  
Ceiling, never long in one place,  
But lighting up little spaces .....

A friendly presence ,dispelling  
The settled gloom of an unhappy day  
And after it had gone; left  
The window open, just in case  
It should return.

- Ruskin Bond

VIII Write a letter to the Executive Engineer of the Tamil Nadu Electricity Board complaining about frequent disturbances in the supply of electricity 10

(Or)

Write a letter to your cousin explaining what made you opt for the science / commerce group in your higher secondary course.

(Or)

Write a letter to the Director of a computer school enquiring the procedure for joining a part time course.

IX Build up a dialogue between a lady and a shop keeper regarding the purchase of sewing machine 5

(Or)

Complete the dialogue with at least five exchanges

Mr X : Good morning sir,I want to open a new savings Bank Account

Banker : Good Morning. Go through this application.

Mr X : .....

X Read the given passage and prepare an attractive advertisement 5

Solar & Co interested in buying old furniture preferably more than 50 years old. Down cash payment contact Phone \_\_\_\_\_.Even on Sundays the company functions.

XI Expand the idea contained in the following statement in about 100 words 10

Many a drop make an ocean

(Or)

All that glitters is not gold

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## **MATRICULATION – STANDARD X**

### **MATHEMATICS – PAPER – I**

Time : 2 Hr. 30 Min

Max. Marks : 100

#### **Part – I**

- Note :      i) This Part contains two sections – Section A and Section B  
ii)     Section A .contain Multiple Choice Questions. Answer all the 20 questions. Each question carries 1 mark.  
iii)    Section B contains 15 questions. Answer any 10 questions. Each question carries 2 marks.

#### **Section – A**

I      Choose the correct answer from the given alternatives:                          [20 x 1 = 20]

1. The general term of a G.P is

$$a(1 - r^n)$$

a)  $\frac{a}{1 - r}$       b)  $ar^{n-1}$       c)  $a + (n - 1)d$       d)  $ar^n$

2. The ratio of sum of n terms of an A.P. to the sum of m terms is 256 : 441 then the ratio of the  $m^{\text{th}}$  term to the  $n^{\text{th}}$  term is

a) 31 : 41      b) 16 : 21      c) 21 : 16      d) 41 : 31

3. 1,1,1,1 ... is \_\_\_\_\_.

a) A.P. only      b) G.P. only      c) A.P. & G.P.      d) Neither A.P nor G.P.

4. The sum of the squares of all the elements in the set  $A = \{x / x \in \mathbb{N}, x \text{ is even and } 2 < x \leq 10\}$  is

a) 216      b) 220      c) 465      d) 11220

5. The relation between the volume ‘V’ of a sphere of radius ‘r’ and its surface area ‘S’ is

$$\frac{2}{3} \pi r^3 \quad \frac{1}{3} \pi r^2 \quad \frac{4}{3} \pi r^2$$

a)  $V = \frac{2}{3} \pi r^3 S$       b)  $V = \frac{1}{3} \pi r^2 S$       c)  $V = \frac{4}{3} \pi r^2 S$       d)  $V = 4 S$

6. The ratio of the volumes of three solids namely cylinder, cone and hemisphere having equal base area and height is

a) 1 : 3 : 2      a) 3 : 1 : 2      a) 2 : 3 : 1      a) 1 : 2 : 3

7. A solid frustum of radius 'R' and 'r' such that  $R > r$  is kept inside a hollow cylinder radius 'R'. Both cylinder and frustum, have same height 'h'. If water is filled in it. What is the volume of water needed?

a)  $\frac{1}{3} \prod h(r^2 + Rr + R^2)$    b)  $\frac{1}{3} \prod h(R^2 + Rr)$    c)  $(2R^2 - Rr - r^2)$    d)  $\prod R^2 h$

8. B – A is defined as

- a)  $\{ x / x \in A, x \notin B \}$       b)  $\{ x / x \notin B, x \in A \}$   
c)  $\{ x / x \in A, x \in B \}$       d)  $\{ x / x \in B, x \in A \text{ and } B \}$

9. X – gene in a plant is responsible for red flowers and Y – gene for white flowers. If both are present , then the flowers produced are pink .If 20 plants have X-gene, 20 plants have Y-gene and there are 30 plants in all, then the total number of plants producing pink flowers are

- a) 13   b) 10   c) 20   d) 30

10. If A and B are any two sets, then  $A \cap B' =$

- a)  $A + B$     b)  $A - B$     c)  $A \cup B$     d)  $A \cap B$

11. Which of the following is incorrect?

- a) set of all real numbers is not a subset of rational numbers
  - b) set of all irrational and rational numbers are overlapping
  - c)  $N - Z = \emptyset$
  - d)  $f \circ g = g \circ f$  when  $f(x) = x^2, g(x) = \sqrt{x}$

12. A comet is heading for Jupiter with acceleration  $a = 50 \text{ kms}^{-2}$ . The velocity of the comet at time 't' is given by  $f(t) = at^2 - at + 1$ . Then the velocity at time  $t = 5$  second is

- a) 900 kms<sup>-1</sup>    a) 1001 kms<sup>-1</sup>    a) 2001 kms<sup>-1</sup>    a) 50 kms<sup>-1</sup>

13. The difference between C.I and S.I on Rs. 6000 for 2 years at 4% per annum is

- a) Rs. 19.2    b) Rs. 9.6    c) Rs. 4.8    d) Rs. 12.4

14. Short term fixed deposits are accepted by the banks for a short period ranging from to

- a) 46 days, 1 year   b) 46 days, 2 years   c) 40 days, 1 year   d) 56 days, 1 year

15. A recurring deposit of Rs. 50 per month at 10 % S.I per annum will fetch at the end of 2 years an interest of

- a) Rs. 250    b) Rs. 125    c) Rs. 375    d) Rs. 500

16. If the roots of  $5bx^2 - (5+b)^2 x + (5+b)^2 - 0$  are 2, 2 find b

- a) 4    b) 2    c) 5    d) 9

17. Which of the following is true?

- a) degree of the quadratic equation ,is one  
b) the solution of  $x^2+x+5 \in R$   
c) degree of HCF of 2 polynomials  $\leq$  degree of the product of the polynomials  
d) degree of  $x^2+2x^2+1$  is 2

18. The nature of the roots of  $x^2+ax+bx+ab = 0$  is

- a) real, distinct and rational    b) real, distinct and irrational    c) not real    d) real and equal

x

19. The partial fraction representation of  $\frac{1}{(x+1)^2}$  is of the form

$$\frac{1}{(x+1)^2} = \frac{A}{x+1} + \frac{B}{(x+1)^2}$$

a)  $\frac{A}{x+1}$     b)  $\frac{A}{x+1} + \frac{B}{(x+1)^2}$     c)  $\frac{Ax+B}{(x+1)^2}$     d)  $\frac{Ax+B}{x+1} + \frac{C}{(x+1)^2}$

$$\frac{Ax+B}{(x+1)^2} = \frac{A(x+1)+B}{(x+1)^2} = \frac{Ax+A+B}{(x+1)^2} = \frac{Ax+\alpha^2}{(x+1)^2}$$
$$\frac{Ax+B}{(x+1)^2} = \frac{B}{(x+1)^2} + \frac{Ax}{(x+1)^2} = \frac{B}{(x+1)^2} + \frac{A(x+1)-A}{(x+1)^2} = \frac{B}{(x+1)^2} + \frac{A(x+1)}{(x+1)^2} - \frac{A}{(x+1)^2} = \frac{B}{(x+1)^2} + \frac{Ax}{(x+1)^2} - \frac{A}{(x+1)^2}$$
$$\frac{Ax+B}{(x+1)^2} = \frac{B}{(x+1)^2} + \frac{Ax}{(x+1)^2} - \frac{A}{(x+1)^2}$$
$$\frac{Ax+B}{(x+1)^2} = \frac{\beta^2}{(x+1)^2} + \frac{Ax}{(x+1)^2} - \frac{A}{(x+1)^2}$$

20. If  $\alpha$  and  $\beta$  are the roots of  $ax^2 + 3x + 2 = 0$ ;  $a < 0$ . If  $m = \frac{\beta}{\alpha} + \frac{\alpha}{\beta}$ , then the correct statement is

- a)  $m < 0$     b)  $m > 1$     c)  $m > 0$     d)  $m > 2$

## **Section – B**

II Answer any 10 questions :  $10 \times 2 = 20$

21. Find the middle term of an A.P. 3, 5, 7...71.

1 2

22. Which term of the A.P.  $19, 18 \dots, 17 \dots$  is the first negative term?  
5      5

23. Evaluate the following :  $1 + 4 + 9 + \dots + 225$ .

24. Find the radius of the cylinder if the area of its curved surface is  $352 \text{ cm}^2$  and its height 16 cm.

25. Two cones have their height in the ratio  $5 : 3$  and the radii of their bases in the ratio  $2 : 1$ , find the ratio of their volumes.

26. How many litres of water will a hemispherical tank hold, whose diameter is 4.2 m?

27. If  $f(x) = \pm \sqrt{x}$ ,  $x \in N$  and  $f(x) \in R$ . Check whether  $f$  is a function or not and give reason.

28. Given  $U = \{1, 2, 3, \dots, 10\}$ ,  $A = \{3, 4, 6, 10\}$ ,  $B = \{1, 2, 4, 5, 6, 8\}$  Verify De Morgan's laws of complementation. (i)  $(A \cup B)' = A' \cap B'$ .

29. Given :  $f(x) = 3x - 2$ ,  $g(x) = kx + 3$ , find  $k$  so that  $f \circ g = g \circ f$ .

30. Chezhian wants to invest Rs.10000 in a bank which pays 6 % interest per annum for 2 years .He is not able to decide whether to invest in compound interest or simple interest kindly advise him.

31. Ebi deposits Rs.100 every month in a bank paying 8% p.a.S.I. on R.D. How much will she pay at the end of 60 months ?

32. If the remainder when  $a - 2x + 5x^2$  divided by  $x - 2$  is 7, then find a.

33. Find the LCM of the following:  $x^2 - 10x + 24$ ,  $x^2 - 11x + 30$

34. If  $M(x+3) + N(x-2) \equiv 8x + 9$ , find the values of M and N.

35. If one root of the equation  $x^2 - 3x + q = 0$  is twice the other, find the value of  $q$ .

## **Part – II**

Note : (i) This Part contains four sections – Section C,Section D,Section E, and Section F.

- (ii) Section C and Section E contain 3 questions. Answer any 2 questions in each section.

(iii) Section D and Section F contain 4 questions. Answer any 3 questions in each section,

(iv) Each question carries 5 marks.

## **Section – C**

III Answer any 2 questions : 2 x 5 = 10

36. If  $S_1, S_2, S_3$  be the sum of  $n$  terms of three arithmetic series, the first term of each being 1 and the respective common differences are 1, 2, 3, prove that  $S_1 + S_3 = 2 S_2$ .

37. If  $p = 3 \sqrt{3} \times 3 \sqrt{3^2} \times 3 \sqrt{3^3} \dots \infty$ , then find  $3 \sqrt[p]{p}$

38. Find 5 numbers in G.P whose product is 32 and the product of the last two numbers is 108.

## Section – D

IV Answer any 3 questions :  $3 \times 5 = 15$

39. Using Venn Diagram verify :  $A - (B \cup C) = (A - B) \cap (A - C)$

40. Given  $f(x) = 5x + 2$ ,  $g(x) = 2x - 3$ ,  $h(x) = 3x + 1$ , verify  $f \circ (g \circ h) = (f \circ g) \circ h$ .

41. Radha borrowed Rs.6000 at 6% S.I.per annum and immediately lent it to Nargis at 6 % .C.I. per annum .How much did she gain at the end of 3 years?

42. Ramya invested Rs.500 every month for 2 years in a bank and collects Rs.12500 at the end of 2 years .Find the rate of simple interest paid by the bank on recurring deposit?

## **Section – E**

V Answer any 2 questions:  $2 \times 5 = 10$

43. Through a pipe of diameter 14 cm water flows uniformly at the rate of 3 km per hour. How much water will flow through it in 10 minutes?

44. A hollow spherical shell has an inner radius of 8 cm. If the volume of the material is  
1952  $\pi$   
----- c.c, find the thickness of the shell.

3

45. A sector containing an angle of  $90^\circ$  is cut from a circle of radius 20 cm and folded into a cone. Find the curved surface area of the cone.

### Section – F

VI Answer any 3 questions:  $3 \times 5 = 15$

46. Given that  $px^2 + qx + 6 = 0$  leaves a remainder 1 on division by  $2x + 1$  and  $2qx^2 + 6x + p$  leaves a remainder 2 on division by  $3x - 1$ . Find p and q.

47. Find the values of a and b if the following polynomial to be a perfect square

3

$$x^4 - 2x^3 - (\text{---}) x^2 + ax + b$$

2

$$x^2 + x + 1$$

48. Decompose into partial fractions : -----  
 $(x - 2)^2 (x + 2)$

49. Solve :  $4x - 3(2)^{x+3} + 128 = 0$

### Part – III

Note : (i) This section contains 2 questions .Answer any 1 question.

(ii) Each question carries 10 marks.

### Section – G

VII Answer any 1 question:  $1 \times 10 = 10$

50. Draw the graph of  $y = 2x^2 - 5x + 2$  and hence solve the equation  $2x^2 - 5x + 3 = 0$

51. Solve graphically the equation  $x^2 - x - 12 = 0$

## MATRICULATION-STANDARD X MATHEMATICS- PAPER-II

Time : 2Hr.30 Min.

Max.Marks : 100

### **PART D    6 cm**

- Note:** (i) This PART contains two sections -Section A and Section B  
(ii) Section A contains Multiple Choice Questions. Answer all the 20 questions Each question Carries 1 mark.  
(iii) Section b contains 15 questions. Answer any 10 questions. Each question carries 2 marks.

#### **Section -A**

**Choose the correct answer from the given alternatives**

1. If  $A = \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{pmatrix}$ , then A is  
a) square matrix b) diagonal matrix c) unit matrix d) rectangular matrix

2. If  $A = \begin{pmatrix} 0 & 0 & -1 \\ 0 & -1 & 0 \\ -1 & 0 & 0 \end{pmatrix}$  The correct statement (S) about matrix  $A^2$  is /are  
(i)  $A^2$  is a null matrix (ii)  $A^2=1$  (iii)  $A^2+A=0$  (iv)  $A^2=-1$

3. Additive inverse of the matrix A is \_\_\_\_\_  
a) 0 b) 1 c)-A d)A

4. In the diagram, if  $AD= 6\text{cm}$ ,  $AF=13\text{ cm}$ , then the length of  $DE=$   
a) 12cm b)24cm c) 18cm d) 144cm

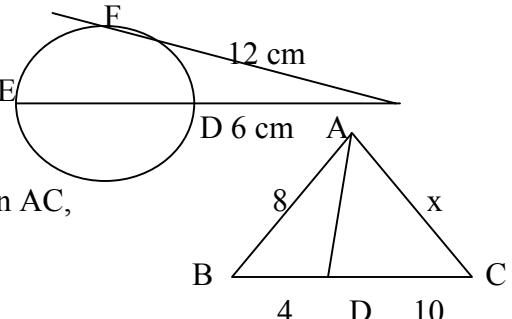
5. In ABC, is he bisector of A. If  $AB= 8\text{cm}$ ,  $BD=4\text{cm}$ ,  $DC=10\text{cm}$ , then AC,  
a) 6cm b)20cm c) 10cm d) 12cm

6. AB is a line segment of length 6cm and M is its mid point. Semicircles are drawn with AM, MI and AB as diameters all one the same side of AB. A circle is drawn, to touch all the semicircles. The radius of the circle is  
a) 6cm b) 3cm c) 2cm d) 1cm

7. Two circles with radii 4cm and 1cm touch each other externally, If c be the radius of the third circle which touches these two circles as well as a common tangent to the two circles then find the value of 'c'"

- a)  $9/4\text{cm}$  b)  $4/9\text{cm}$  c)  $2/3\text{cm}$  d)  $3/2\text{cm}$

8. The distance between the centres of two circles is 13 cm and the radii are 8 cm and 3cm respectively. the length of their direct common tangent is



- a) 8cm      b) 5cm      c) 13cm      d) 12 cm

9. The slope of the line which is perpendicular to the line joining the points (0,0) and (-2,2) is  
 a) 1    b) -1    c)  $\frac{1}{2}$     d) -2

10. A straight road AB (A is in IV quadrant) is such that it bends at B(1,0) by an angle of  $30^\circ$  towards the right. Considering the line perpendicular to AB through b to be X – axis ,equations of the two parts of the road are

- a)  $x = 1$  ,  $\sqrt{3}x - y - \sqrt{3} = 0$     b)  $y = 1$  ,  $x - \sqrt{3}y + 1 = 0$     c)  $x = 0$ ,  $y = \sqrt{3}$     d)  $y = 1$ ,  $x = 1$

11. The circum center of a triangle with vertices as origin, (4, 0) and (0, 5)

- a)  $(\frac{4}{5}, \frac{5}{4})$     b)  $(0, 0)$     c)  $(2, \frac{5}{2})$     d)  $(\frac{5}{2}, 5)$

12. The value of p, given that the line  $\frac{y}{p} = x - p$  passes through the point (-4, 4) is  
 a) 4    b) -6    c) -2    d) 3

13. If (5,7), (3,a),(6,6) are collinear ,then the values of a is

- a) 3    b) 6    c) 9    d) 12

14.  $\sin^2 1^\circ + \sin^2 2^\circ + \dots + \sin^2 90^\circ =$

- a) 90    b) 45    c) 46    d) 45.5

15. If the angle of elevation of a cloud from a point of height  $\frac{1}{\sqrt{3+1}}$  meters above a lake is  $45^\circ$  and angle of depression of its reflection in the lake is  $60^\circ$  then the height of the cloud is

- a)  $\frac{\sqrt{3}-1}{\sqrt{3}+1}$     b)  $\frac{\sqrt{3}+1}{2}$     c)  $\frac{\sqrt{3}-1}{2}$     d)  $\frac{1+\sqrt{3}}{2\sqrt{3}}$

16. Each interior angle of a regular polygon of twelve sides is

- a)  $180^\circ$     b)  $30^\circ$     c)  $150^\circ$     d)  $360^\circ$

17.  $35^\circ - 30^\circ 17' 20''$

- a)  $65^\circ 17' 20''$     b)  $4^\circ 42' 40''$     c)  $5^\circ 43' 40''$     d)  $6^\circ 42' 40''$

18. A trekker, before climbing a mountain finds the height of the mountain from a point 20 km from it. He finds the angle of elevation to be  $30^\circ$ .The height of the mountain is

- a)  $\frac{20\sqrt{3}}{3}$  km    b)  $20\sqrt{3}$  km    c) 20 km    d) 30 km

19. The probability of getting neither an ace nor a king from a pack of 52 cards is

- a)  $20\sqrt{4}$     b)  $10\sqrt{2}$     c)  $5\sqrt{2}$     d)  $\frac{5\sqrt{2}}{2}$

20. The standard deviation of 5 values is  $5\sqrt{2}$ . If each value is increased by 4, then the new standard deviation is  
 a)  $20\sqrt{4}$       b)  $10\sqrt{2}$       c)  $5\sqrt{2}$       d)  $\frac{5\sqrt{2}}{2}$

### Section - B

Answer any 10 questions:

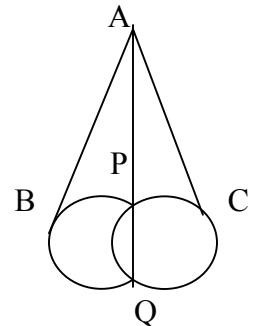
$10 \times 2 = 20$

21. Define diagonal matrix with an example.

22. Solve for x, y if  $\begin{pmatrix} x^2 \\ y^2 \end{pmatrix} + 2 \begin{pmatrix} 2x \\ -3y \end{pmatrix} = \begin{pmatrix} 5 \\ -8 \end{pmatrix}$

23. State Angle Bisector Theorem

24. In the figure: Two circles intersect each other at points P and Q. If AB and AC are the tangents to the two circles from a point A on QP produced, show that  $AB = AC$ .



25. If the bisector of an angle of a triangle bisects the opposite side, prove that the triangle is isosceles.

26. Determine the value of 'a' such that  $(a, a), (2, 3), (4, -1)$  are collinear.

27. A straight line passes through  $(3, -4)$  and  $(-4, 3)$ . Another line has slope 1. Are the lines parallel or Perpendicular?

$$\begin{matrix} -4 & 3 \\ 3 & 4 \end{matrix}$$

28. Find out equation of the line cutting off intercepts  $\frac{-4}{3}$  and  $\frac{3}{4}$  on the X and Y axes respectively.

29. Write down the equation of a line parallel to  $3x - 4y - 5 = 0$  and passing through the point  $(2, 3)$

30. Using the formula  $\cos(A + B) = \cos A \cos B - \sin A \sin B$ , evaluate  $\cos 75^\circ$

31. Evaluate:  $\tan(51^\circ 15') + \cot(25^\circ 18')$

32. Determine the angle of elevation of the sun when the length of the shadow of a pole is  $\sqrt{3}$  times the height of the pole.

33. If  $A + B = 90^\circ$  show that  $1 + \frac{\tan A}{\tan B} = \tan^2 A \sec^2 B$

34. A perfect die is tossed twice. Find the probability of getting a total of 9.

35. Find the S.D. of the first five natural numbers.

## Part – II

Note :

- (i) This Part contains four sections – Section C, Section D, Section E, and Section F.
- (ii) Section C and Section E contain 3 questions. Answer any 2 questions in each section.
- (iii) Section D and Section F contain 4 questions. Answer any 3 questions in each section.
- (iv) Each question carries 5 marks.

### Section - C

Answer any 2 questions:

$2 \times 5 = 10$

36. State Thales Theorem and Prove it.

37. AB is a line segment and M is its mid point .Semi circles are drawn with AM,MB and AB as diameters on the same side of the line AB.A circle with centre O and radius r is drawn so that it touches all the three semi-circles . 1

$$\text{Prove that } r = \frac{1}{6} AB.$$

38. Prove that any four vertices of regular pentagon are concyclic.

### Section – D

Answer any 3 questions:

$3 \times 5 = 15$

39. If  $A = \begin{pmatrix} 3 & 2 & 0 \\ 1 & 4 & 0 \\ 0 & 0 & 5 \end{pmatrix}$  Show that  $A^2 - 7A + 10 I_3 = 0$

40. Find X and Y if  $X + Y = \begin{pmatrix} 4 & 4 & 7 \\ 7 & 3 & 4 \end{pmatrix}$  and  $X - 2Y = \begin{pmatrix} -3 & 2 & 1 \\ 1 & -1 & 2 \end{pmatrix}$

41. Find the S.D. of the following

C.I	0 – 10	10 – 20	20 – 30	30 – 40
F	3	4	2	5

42. A number is selected at random from 40 to 80.Find the probability that it is divisible by 6 or 9.

### Section – E

Answer any 2 questions:

$2 \times 5 = 10$

43. Prove the identity  $\frac{\tan \theta}{1 - \cot \theta} + \frac{\cot \theta}{1 - \tan \theta} = 1 + \tan \theta = \cot \theta = 1 + \sec \theta \operatorname{cosec} \theta$

44. Find the area of an isosceles triangle with base 10 cm and vertical angle  $47^\circ$ .
45. The angle of elevation of a Jet plane from a point P on the ground is  $60^\circ$ . After 15 seconds, the angle of elevation changes to  $30^\circ$ . If the Jet is flying at a speed of 720 km / hr, find the height at which the jet is flying.

### Section - F

Answer any 3 questions:  $3 \times 5 = 15$

46. Find the equation of the straight line joining the point of intersection of  $3x - y + 9 = 0$  and  $2y + x - 4 = 0$  to the point of intersection of  $2x + y = 4$  and  $2y = x + 3$ .
47. The vertices of a  $\Delta ABC$  are A (-3,3), B (-1,-4) and C (5,-2). M and N are the mid points of AB and AC . Show that MN is parallel to BC and  $MN = \frac{1}{2} BC$  .
48. Find the equation of a line parallel to Y axis and passing through the point of intersection the lines  $3x - 4y - 9 = 0$  and  $x - 4y - 2 = 0$ .
49. Find the orthocenter of each of the following triangle whose vertices are (-2,1) , (-1,-4) and (0,-5).

### Part – III

Note : (i) This Section contains 2 questions . Answer any 1 question  
(ii) Each question carries 10 marks.

### Section – G

Answer any 1 questions  $1 \times 10 = 10$

50. Draw a circle of radius 4 cm, Take a point P outside the circle . Without using the center of the circle, draw two tangents to the circle from the point P. Measure the length of the tangents and verify it.
51. Construct a  $\Delta ABC$  such that  $AB = 6$  cm,  $\angle C = 40^\circ$  and altitude from C to AB is of length 4 cm . Measure the length of median through C.

**STD : X**

**Model Question Paper  
Science Paper – I  
Physics**

Max. Marks : 50

Time : 1 ¼ hrs

**I. Choose the correct answer and write it against the question number in your answer book**

1. A man arriving cement bag on his back up a slope will
  - (a) learn backward
  - (b) learn forward
  - (c) what straight
  - (d) lean towards his left
  
2. The wavelength of Chennai A broadcasting station is 60cm. At what frequency does Chennai A broadcast?
  - (a) 3000kHz
  - (b) 4000kHz
  - (c) 5000kHz
  - (d) 6000KHz
  
3. Them it voltage following of a transformer whose turns ration 40 is 60 volt. The output voltage is
  - (a) 6 V
  - (b) 40 V
  - (c) 120 V
  - (d) 240 V
  
4. Whch of the following is based on electromagnetic induction?
  - (a) transformer
  - (b) galvanometer
  - (c) loudspeaker
  - (d) motor
  
5. The un of stress is
  - (a) Nm
  - (b) Nm-1
  - (c) Nm2
  - (d) N s-1
  
6. A chain reaction is possible when the mass of the fuel is greater than
  - (a) proton mass
  - (b) neutron mass
  - (c) electron mass
  - (d) critical mass
  
7. In a Nuclear reactor the fissionable material is
  - (a)  $^{92}\text{U}^{232}$
  - (b)  $^{92}\text{U}^{235}$
  - (c)  $^{90}\text{Th}^{234}$
  - (d)  $^{94}\text{Pu}^{235}$
  
8. Natural radioactivity occurs in elemts of atomic number greater than
  - (a) 28
  - (b) 82
  - (c) 52
  - (d) 40
  
9. The object which are found between orbits of Mars and Jupiter are
  - (a) meteorites
  - (b) asteriods
  - (c) comets
  - (d) meceors
  
10. The ratio if the velocities with which two galaxies move away from the earth is 23. The ratio of their distance is

- (a) 3:2      (b) 2:3      (c) 4:9      (d) 9:4

**II. Answer any five of the following question in one or two sentences: (5 X 2 = 10)**

11. Define angular momentum
12. What is the energy of a photon of frequency  $705 \times 10^{14} \text{ Hz}$ ?
13. The magnetic flux linked with a coil hangs from 0.3 W to zero in 1.2 second. Calculate the induced emf.
14. State Fleming's left hand rule
15. Why does a person standing in a railway platform tend to fall towards the moving train?
16. How does the surface tension vary with temperature?
17. Find the nuclear radius of  $_{13}\text{Al}^{27}$
18. What is the principle involved in the production of X-rays?
19. State Newton's universal law of gravitation.

**III. Answer any five of the following question.**

20. Compare the motion of a freely falling body with that of a projectile.
21. Derive the relation between linear velocity and angular velocity.
22. Calculate the momentum of a particle associated with de Broglie current wavelength  $2\lambda$ .
23. What is photoelectric effect? On what factors does the photoelectric current depend?
24. Find the cost of using a 1500 W immersion heater and a 700 W electric iron for 30 minutes per day for 30 days, at the cost of Rs.2 per unit.
25. Distinguish between streamline flow and turbulent flow.
26. Define reproduction factor. Give its significance.
27. Write any three properties of X-rays?
28. What are meteors and meteorites?

**IV. Answer any three of the following question.**

29. A force of 150 N is required to break a 3cm long nylon ord. An object of mass 1.2 kf is fixed to one end of the cord and whirled around. Determine the maximum speed with which it can be whirled around without breaking the cord.
30. Explain Raman effect and write its applications.
31. List the parts of D C generator and describe its working with a neat diagram.
32. Explain the various energies possessed by a liquid that flows though a pipe.
33. describe Rutherford's -particle scattering experiment and write the inference.
34. Write the uses of Radio-isotopes.

**LIST OF PRACTICALS RECOMENDED FOR X STD MATRIC**

1. Using simple pendulum determine the acceleration due to gravity in the laboratory
2. Determine the melting point of wax by plotting cooling curve
3. Determine the focal length of the given convex lens
4. Determine the weight of the given solid using the principle of moments.
5. Determine the relative density (specific gravity) of a liquid using a test-tube float as a constant immersion hydrometer.
6. Verify the first law of transverse vibration of a stretched string using sonometer.
7. Determine the refractive index of the material of the given glass prism.
8. Determine the specific resistance of the material of a given wire.

**SCIENCE (THEORY) - PAPER I  
SECTION - B  
CHEMISTRY**

CLASS :X

MARKS : 50

TIME : 1 1/4 HRS

**V CHOOSE THE CORREXT ANSWER AND WRITE IT AGAINST THE QUESTION NUMBER  
IN THE ANSWER BOOK:**

**10 x 1 = 10**

35. The Quantum number which gives the maximum number of electrons in a shell is \_\_\_\_\_  
Quantum number.

- a) Principal    b) Azimuthal    c) Magnetic    d) Spin

36. The mass of one mole of Ozone is \_\_\_\_\_ gm.  
a) 18    b) 16    c) 32    d) 48

37. Law of multiple proportions was given by \_\_\_\_\_  
a) Dalton    b) Lavoisier    c) Berzelius    d) Proust

38. The value of H is positive for \_\_\_\_\_ reaction.

39. German salve is an alloy of \_\_\_\_\_  
a) Iron    b) Aluminum    c) copper    d) Gold

40. Which one of the following occurs in its native form?  
a) Zinc    b) Iron    c) aluminum    d) Gold

41. Sodium Silica is also called as \_\_\_\_\_  
a) Blue Glass    b) Water Glass    c) Watch Glass    d) Crystal Glass

42. Butan-2-ol is \_\_\_\_\_ alcohol.  
a) a Primary    b) a Secondary    c) a Tertiary    d) an Aromatic

43. Formic acid is present in \_\_\_\_\_  
a) Ants    b) Vinegar    c) Butter    d) None

44. Asbestos is he disease which affects \_\_\_\_\_  
a) Luns    b) Heart    c) Eyes    d) None

**VI. ANSWER ANY FIVE OF THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES**

45. State Principle

46. Define Law of Conservation of Mass.

47. State Goy Luessac's law of combining volumes.

48. Define Law of Mass action.

49. What is Liquation?

50. Define allotropy.

51. What is denatured alcohol?
52. Give any two uses of ethers.
53. Give the types of soil pollutants.

**VII. ANSWER ANY FIVE OF THE FOLLOWING QUESTIONS IN BRIEF:       $5 \times 3 = 15$**

54. Write a note on Summerfield's model of an atom.
55. Give any three difference between an orbit and an orbital.
56. What weight of  $\text{H}_2\text{SO}_4$  is present in  $250 \text{ cm}^3$  of .025 N solution?
57. 6 gm. of Carbon forms two types of oxides each weighing 10 gm and 14gm respectively.  
Which law does it illustrate? Give reason.
58. Define Rate of reaction and mention its unit.
59. Give any three of Aluminium.
60. Mention the types of ethers with examples.
61. How is Acc acid prepared by Quick Vinegar process?
62. What is decarboxylation? Give an example.

**VIII. ANSWER ANY FIVE OF THE FOLLOWING QUESTIONS IN DETAIL WITH NECESSARY DIAGRAMS AND EQUATIONS WHEREVER NECESSARY     $3 \times 5 = 15$**

63. Explain Oxide formation method of determining equivalent mass of an element with an example.
64. Distinguish between metals and non metals based on their physical properties.
65. Explain the following in the extraction of Iron from its ore  
a) Combustion zone   b) Fusion Zone and   c) Slag formation zone
66. How is Phosphorus extracted by the Modern Electric Thermal process from its ore?
67. Describe the manufacture of ethanol from Molasses.
68. What are effects of Air-Pollution on human beings?

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## **INSTRUCTION FOR PRACTICAL - CLASS X QUESTIONS FOR PRACTICAL EXAMINATION**

### **1 VOLUMETRIC ANALYSIS**

**10 MARKS**

### **2 SALT ANALYSIS**

**10 MARKS**

### **3 RECORD**

**5 MARKS**

1.
  - a) Estimate the amount of Sodium Hydroxide present in 1litre of the given solution. You are provided with a decimal solution of Hydrochloric acid.
  - b) Analyse the given simple salt systematically. Identify the acid radical and the basic radical. Record your observations.
2.
  - a) Estimate the amount of Sodium Hydroxide present in 500ml of the given solution .You are provided with decinormal of Hydrochloric acid .
  - b) Analyse the given simple salt systematically. Identify the acid radical and the basic radical. Record your observations.

### **TYPE - II**

3.
  - a) Estimate the amount of Perrous Sulphate present in 1 litre of the given solution .You are provided with decinormal solution of Potassium Permanganate.
  - b) Analyse the given sample salt systematically. Identify the acid radical and the basic radical. Record your observations.
4.
  - a) Estimate the amount of Ferrous Sulphate present in 500ml of the given solultion.You are provided with decinormal solution of Potassium Permanganate.
  - b) Analyse the given sample salt systematically. Identify the acid radical and the basic radical. Record your observations.

## **SCHEME OF VALUATION**

### **I VOLUMETRIC ANALYSIS:**

MAXIMUM MARKS	-	10
---------------	---	----

- |  |   |   |
|--|---|---|
| 1. Short Procedure                         | - | 4 |
| 2. Tabular Column                          | - | 2 |
| 3. Normality Calculation                   | - | 2 |
| 4. Circulating the amount of the substance | - | 1 |
| 5. Correct Result                          | - | 1 |

**Note:** For practical examinations logarithmic tables are allowed ( but usage of logarithmic table is not compulsory for calculations)

## **II SALT ANALYSIS**

	MAXIMUM MARKS	-	10
ACID RADICAL			
Identification	-	1	
Procedure	-	3	
BASIC RADICAL			
Identification	-	1	
Procedure	-	3	
RESULT	-	2	
TOTAL	-	10	
III RECORD	-	5	
TOTAL	=		$10 + 10 + 5 = 25$

## **SALT ANALYSIS**

### **Note :**

1. The procedure given in the text book should be followed strictly.
2. In the case of basic radical analysis, it is enough if the student writes the procedure upto the group in which the radical has been identified. Procedure for the rest of the groups need not be written.  
**For Example:** If copper is the basic radical, then they need to write only upto Group II with the confirmatory tests.
3. The confirmatory tests for the acid radical need not be written at the end ,once again.

**SUGGESTED D SALTS FOR SALT ANALYSIS - AS GIVEN IN THE TEXT BOOK  
( T.B. Page 182)**

**Std. X-Matriculation Examination  
Model Question Paper (Theory)  
Science -II  
Biology- Botany**

Time: 1 $\frac{1}{4}$  Hrs.

Marks : 50

**Section -A**

**I Choose the Correct answer                                    5 x 1 = 5**

1. In Pencillium sexual reproduction occurs by the formation of .....  
a. assospore    b. conidia    c. apianospore    d. endospore
2. RUDP contains.....Carbon atoms.  
a. 1              b. 5              c. 6              d. 8
3. The functional unit gene is called.....  
a. Cistron        b. Recon        c. Muton        d. Operon
4. A fruit is fertilized.....  
a.                  b. ovary              c. voule              d. stamen
5. Which of the following is the main source of fresh water?  
a. rain            b. ocean            c. ice              d. groundwater

**II Fill in the blanks with suitable terms**

6. A synthetically manufactured antibiotic is.....
7. The 'V' shaped structure of chromosomes is called.....
8. Ginger contains an essential oil called.....
9. CPC refers to.....
10. Food disaster was due to an acure short fall in.....

**III Answer any five of the following questions in One or Two Sentences.                                    5 x 2 = 10**

11. What is retting?
12. Explain the term 'Water Potential'
13. What is imbibition?
14. Explain the term 'Parthenooarpy'
15. What is phylloclade?
16. What are the internal factors necessary for germination?
17. Define the term 'Pomology'
18. How is neem used traditonally?
19. What is acid rain?
20. Define eco-friendly agriculture?

**IV** Write Short answers for any four of the following questions in 100 hundreds. Draw diagrams wherever necessary. (Question No. 22 is compulsory question)  $5 \times 4 = 20$

21. Explain autotrophic bacteria.
  22. Give the schematic representation of dark reaction of photosynthesis.
  23. Distinguish between DNA and RNA.
  24. Mention the modern applications of Genetic Engineering.
  25. Explain the types if baccate fruits with an example.
  26. What are the effects of noise pollution?
  27. Explain the process of hybridization.

**V** Write detailed answers for any of the following in 200 words. Draw diagrams wherever necessary. **1 x 10 =10**

- Given account of photophosphorylation.
  - Describe the Hypogeal germination in detail.

**Std. X-Matriculation Examination**  
**Model Question Paper (Theory)**  
**Botany Practicals**

Time: 1½ Hrs.

Marks : 25

I . Identify the given slide A and write any reason for identification. Draw a labelled sketch 3

II. Identify the given specimen B and C and classified them. Write any two salient features.  
Drawn labelled diagrams  $2 \times 3 = 6$

III. Identify the type for germination in the displayed specimen D and give two reason 3

IV. Identify the given medicinal plant E and write any two uses. 2

V. Identify the given experimental setup F. Write the aim, procedure

VI. Identify the given model G and write its significance

VII. Project 2

VIII. Record 3

External (20 marks)

Question I	3
Question II	6
Question III	3
Question IV	2
Question V	3
Question VI	3

Internal (5 marks)

Project	2
Record	3

Total 

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 25

**X STD**  
**Matriculation Examination**  
**Model Question Paper ( Theory)**

## Science II

Time : 1  $\frac{1}{4}$  hrs

Marks : 50

# **Biology – Zoology**

## **Section – B**

I	Choose the correct answer	$5 \times 1 = 5$
	1. Haemoglobin consists of a protein part called a) Haem    b) Globin    c) Iron    d) Heparin	
	2. In Frog internal cavity callec ventricle is not present in a) Olfactory lobes    b) Cerebrallobes    c) Cerebellum    d) Medulla oblongata	
	3. If transplantation is done with one's owr tissue grafted to another part of the body it is termed a) Allograft    b) Autograft    c) Xenograft    d) Isogratf	
	4. Segmentation of Zygote is also termed a) Gastrulation    b) Cleavage    c) Blastulation    d) Fertilization	
	5. The vaccine given between 9 – 12 months is a) Typhoid    b) Polio    c) Measles    d) BCG	
II	Fill in the blanks with suitable terms	$5 \times 1 = 5$
	6. The largest blood vessel of the body is termed the _____	
	7. Genetically identical individuals are known as _____	
	8. An instrument used to study the internal organs of man is _____	
	9. First booster dose of polio is given at the age of _____	
	10. In the year 1973,Indian Government launched a special scheme _____	
III	Answer any five of the following questions in one or two sentences	$5 \times 2 = 10$
	11. Define the term peristalsis	
	12. Draw a labeled sketch of the lymph	
	13. Mention the effects of Hyperparathyroidism	
	14. What are Sertoli cells?	
	15. Define Ovulation.	
	16. Mention any four National Parks in India	
	17. Name few fauna found in the desert.	

- IV

  18. What are antibodies ?
  19. Explain the term immunization.
  20. What is endoscopy?

Write short answers for any four of the following questions in 100 words. Draw diagrams wherever Necessary  
 $4 \times 5 = 20$   
(Question number 24 is a compulsory question)

  21. Describe the digestive system of Frog
  22. Describe the forebrain of frog
  23. Explain the structure of a tooth
  24. Draw a neat labeled sketch of a Hen's egg
  25. Explain Man and Biosphere
  26. Write short notes on Active acquired immunity
  27. Explain organ transplantation.

V

Write detailed answer for any one of the following in 200 words.  
Draw diagrams wherever necessary  
 $1 \times 10 = 10$

  28. Explain the structure of the human heart with a labeled sketch.
  29. Describe the development of "Dolly".

## **Model Question Paper** **Zoology Practicals**

Max Marks : 25

Time : 1 ½ hrs

- I      a. Identify the flag labeled parts (A) and (B) in the given discussion:  
b. Write their location, structure and functions.  
c. Draw a neat diagram and flag label only the indicated parts

Identification of labeled parts	-	1 + 1 = 2 marks
Location	-	½ x 2 = 1 mark
Structure	-	½ x 2 = 1 mark
Function	-	½ x 2 = 1 mark
Diagram	-	2 marks
Two labels	-	1 mark

- II     a. Identify the given preserved specimen ( C )  
b. Draw a neat labeled diagram  
c. Write notes on it.

Identification	-	1 mark
Diagram	-	2 marks
Labels	-	2 marks
Notes	-	2 marks

- III    a. Identify the given apparatus (D) (1 mark)  
b. Write a note on its use in the diagonals of a pathological condition  
(Diagram not needed) ( 4 marks )

**KEY**

I	-	Digestive system of Frog (Model)	A – Stomach    B – Rectum
II	-	Heart of Sheep (Preserved Specimen)	
III	-	ECG apparatus (Either apparatus or diagram or photograph)	

External	( 20 marks)
Q I	8 marks
Q II	7 marks
Q III	5 marks

Internal	
Project	2 marks (Project can be done based on textual material)
Record	3 marks

-----  
25 marks  
-----

# **DEPARTMENTAL MODEL QUESTION PAPER**

## **HISTORY AND CIVICS**

Time: 2½ hrs.

Max. Marks: 100

N. B: 1. Draw diagrams wherever necessary.

2. Outline map of Europe or India should be attached to the answer script after marking on it as asked in the question paper

## PART -A

I Choose the correct answer and complete each statement  $10 \times 1 = 10$

1. In \_\_\_\_\_ the \_\_\_\_ - reached China dn established trading posts.  
a)                    b) Portuguese            c) Dutch
2. The Treaty of \_\_\_\_\_ was concluded with Austria.  
a)                    b) Severes                c) Neuilly
3. Ma-Tse-Tung and Chou En Lai organised a march called \_\_\_\_\_  
a) Long Marchb) Dandi March                c) Salt March
4. The 'doctrine of Lapse' was the policy of annexationos of \_\_\_\_\_  
a) Lord Wellesley b) Lord Dalhousie c) Lord Bentinck
5. The European Coal and Steel community was set up with \_\_\_\_\_ members.  
a)                    b) 5                        c) 6
6. In \_\_\_\_\_ 1991 , the leaders issued a declaration, that the Soviet Union war dissolved  
a) Decmber 1      b) Decemebr 8                c) December 9
7. In Sepetmber 1970, \_\_\_\_\_ was appointed commander-in-chief of the Palestinian guerilla forces  
a)                    b) Abbas                        c) Mubarak
8. The International year for women was \_\_\_\_\_  
a) 1979                b) 1978                        c) 1977
9. The right to vote is known as \_\_\_\_\_  
a) Franchise    b) Constitution                c) Fundamental Right
10. India helped Indonesia to free her from \_\_\_\_\_  
a) Holland          b) England                    c) Scotland

**II** Answer the following in a word or phrase 10 x 1 = 10

11. What was the need created by the Industrial revolution?
12. Wh
13. Where was the Atlantic Charter signed?
14. waht was the main objective of the Baghdad Pact?
15. Who partitioned Bengal?
16. Give the name of East German Parliamenrt
17. Expand MIR
18. What was the Planning commission set up?
19. Whose judgement cannot be interfaced with by the Supreme Court?
20. Expand the term EXNORA.

**III** Match the following:

- |                                   |                   |
|-----------------------------------|-------------------|
| a) History                        |                   |
| 21. Perestriol                    | a) Yasser Arafat  |
| 22. Monday Demon                  | b) Tombay         |
| 23. PLO                           | c) Restructuring  |
| 24. Bhabha Atomic Research Centre | d) New Deal       |
| 25. FDR                           | e) Leipzig        |
| <br>b) Civics                     |                   |
| 26. President                     | a) Legislature    |
| 27. Parliament                    | b) Glenegles      |
| 28. Lok Adalat system             | c) Small states   |
| 29. Direct Democracy              | d) Executive Head |
| 30. G-8 Summit                    | e) Speedy Justice |

## **PART B**

**IV** Answer any Eight (Five from History and Three from Civics)  
 Answer all the questions given under each caption.

$8 \times 5 = 40$

31. Political Imperialism
  - a) What is political Imperialsim?
  - b) Give an example for this type of imperialism
  - c) Why did the industrially advanced countries exploit these regions?
  - d) Which countires imposed economic imerialism?
  - e) Who dominated china?
32. Benite Mussolini
  - a) When was Mussolini born?
  - b) Who were his parents?
  - c) What did Mussolini do after teh First World War?
  - d) Give the watch words of Mussolini.
  - e) Explain the term 'March on Rome'
33. Hirler's aggressions
  - a) What was the Locarno Treaty?
  - b) How did Hityler violate the Locarno Treaty?

- c) Name a region annexed by Hitler on the excuse that there was a large German population.
- d) Why was the 'Munich Pact' signed?
- e) How did Hitler violate the Munich Pact?

34. Manila Pac

- a) Who were alarmed at the emergence of Communist China as a great power?
- b) Who were menaced by the Communists?
- c) What alarmed the Asian countries?
- d) Where did the Asian countries meet?
- e) Name the countries which signed SEATO

35. South Africa

- a) When was ANC formed?
- b) Who protested against the policies of White minority government?
- c) What was the policy practiced by the White minority government?
- d) How long was Madela imprisoned?
- e) When did Mandala become President?

36. Queen Victoria's Proclamation

- a) When was the Queen's Victoria Proclamation issued?
- b) Who was the Governor General of India at that time?
- c) What was the status of the Queen with regard to Indian territory?
- d) Name the new port created to help administration.
- e) What was the title given to the Governor General after 1858?

37. Quit India Movement

- a) Who adopted resolution in favour of starting a mass movement?
- b) What was the slogan given by Gandhi?
- c) What was the demand of the Congress?
- d) What steps were taken by British to suppress the movement?
- e) What was the result of lack of leadership among the Indians?

38. Germany after World War II

- a) Who formed FRG?
- b) Who formed GDR?
- c) What claims did FRG and GDR make?
- d) By whom was the first proposal put forth the reunification?
- e) What did it call for?

39. SALT -II

- a) What was the primary goal of SALT-II?
- b) Mention any two points focused on by SALT-II
- c) When and where did the major breakthrough occur?
- d) Who signed the completed SALT-II agreement?
- e) Where and when did they sign?

40. Information Technology

- a) Where does India stand in having built Super Computer?
- b) What has India achieved?
- c) What has been released by C-DAC?
- d) What have become part of our daily life?
- e) What is the use of the interest?

41. Prime Minister and President

- a) Who is the main link of communication between the President and the Cabinet?
  - b) What is the duty of Prime Minister?
  - c) On whose advice does the President act?
  - d) When does the President summon or prorogue the Parliament?
  - e) Who proclaims a state of emergency and on whose advice?

## 42. Annual Budget

- a) What is an Annual Budget/
  - b) What happens after introducing the Budget in the Lok Sabha?
  - c) What is the power of the Lok Sabha at this stage ?
  - d) What is an Appropriation Bill ?
  - e) What is Finance Bill ?

### 43. Judicial functions of the Supreme Court

- a) What is original jurisdiction ?
  - b) Give an example of original jurisdiction.
  - c) What is appellate jurisdiction ?
  - d) What type of cases does it hear under appellate jurisdiction?
  - e) What is required to appeal in the Supreme Court ?

44. Anti-Social Partices

- a) What are different antisocial parties?
  - b) How does bribery occur ?
  - c) Name the Act passed by the Government against corruption ?
  - d) Who are considered to be the criminals ?
  - e) What are the things smuggled into India ?

#### 45. Legislation on Children in Free India

- a) What does Article 39 (f) assure children ?
  - b) How does the Article 45 help the children ?
  - c) What does the Article 24 provide for children ?
  - d) Explain the Employment of children Act of 1938.
  - e) How does Juvenile Injustice Act protect the children ?

#### 46. Policy of Disarmament

- a) When and where did India bring a resolution in favour of disarmament ?
  - b) What has India stressed ?
  - c) Who was the first person to call for the banning of Nuclear tests ?
  - d) What was the result ?
  - e) Which treaty was concluded ion 1996 ?

## PART - C

V 47. Answer any one of the following in not more than two pages : 1 x 10 = 10

- a) Give an account of the causes of the First World War.
  - b) Write about the Freedom movement of India from 1885 to 1919.
  - c) Trace the establishment of the European Union.

48. Answer any one set of the following  $2 \times 5 = 10$

Each sub question of the set should be answered in 15 lines.

- a) i) How is the President of India elected ? Explain his Legislative powers.  
ii) How are communalism and Casteism harmful to our country?
- b) i) Give an account of the Legislation on Women in Free India.  
ii) Write about the Foreign policy of India with special reference to Panch Sheel and Non-Alignment.

**PART – D**

VI      49. On the outline map of Europe mark the following :                          10

- a) Non-Communist Countries  
i) United Kingdom        b) France        c) Norway        d) Italy
- b) Communist Countries  
i) Rumania        b) Bulgaria        c) Hungary        d) Poland
- c) Neutral Countries  
i) Sweden        b) Switzerland

OR

On the outline map of India, mark the following centers of Science and Technology:

- (i) Trombay    (ii) Trivandrum    (iii) Gulmarg    (iv) Sindri    (v) Kochi    (vi) Salem  
(vii) Jamshedpur    (viii) Dhanbad    (ix) Ooty    (x) Kolkata

# **X STD MATRICULATION (NEW SYLLABUS) GEOGRAPHY & ECONOMICS (MODEL PAPER)**

Time : 2 ½ hours

**Max Marks : 100**  
**(Geography 70**  
**Economics 30)**

N. B. (i) The outline map of India should be attached to the answer scripts after answering on it asked in Part VI  
(ii) Draw diagram wherever necessary.

**PART -I**  
**(Marks 25)**

a) Choose the correct answer:-  $25 \times 1 = 25$

**b.) Fill in the blanks.**

11. India is \_\_\_\_\_ hours ahead of the Greenwich mean times
12. Techniques for keeping rainwater in reserves are termed as \_\_\_\_\_
13. Coffee research center is located at \_\_\_\_\_
14. The scientific way of finding solution to any problem is known as \_\_\_\_\_
15. Electric fan and Sewing machines are manufactured in \_\_\_\_\_ industries.
16. Infrastructure is also known as \_\_\_\_\_
17. The differences between the birth rate and death rate measures the \_\_\_\_\_ rate of populations.
18. Social cost refers to the cost that a \_\_\_\_\_ has to bear on account of production of a Commodity.
19. If the value of imports is \_\_\_\_\_ than the value of exports, the balance of trade is set to be unfavourable.
20. \_\_\_\_\_ taxes are levied on goods and services.

**c) Match the following**

- |                |   |                      |
|----------------|---|----------------------|
| 21. Himatri    | - | Cotton               |
| 22. Norwesters | - | Hirakud              |
| 23. Mahanasi   | - | Glaciers             |
| 24. Regur Soil | - | Silk textiles        |
| 25. Mysore     | - | Assam & West Bengal. |

**PART II**

**(Marks 20)**

**N. B: Write short answers for any ten of the following choosing eight from Geography and Two From Economics.**

**10 x 2 = 20**

**GEOGRAPHY**

26. Mention the subdivisions of peninsula plateau
27. List out the two main aims of introducing latest technology in agriculture.
28. Name the neighbouring countries of India.
29. Enumerate the factors related to the formation of soil
30. What do you mean by pollution.
31. What is meant by multipurpose project.
32. Name the two leading states of cotton textile industries.
33. Name the few electronic media that have revolutionised the communication network.
34. What is meant by remote sensing?
35. Define 'Biosphere'.

**ECONOMICS**

36. Define economic growth.
37. Explain briefly various factors responsible for unemployment.
38. Explain money cost.
39. Define Internal and International Trade.

40. Define National Income and explain the various methods of computing National Income in India.

### **PART - III**

N. B: i) Answer any five of the following questions choosing three from geography and two from Economics.  
ii) Answer briefly.  $5 \times 3 = 15$

## GEOGRAPHY

Distinguish between the following:

- 41. Western Ghats and Eastern Ghats.
  - 42. Natural disaster and man made disaster.
  - 43. Public sector and private sector industries.
  - 44. Monsoon forest and mangrove forest.
  - 45. Canal irrigation and tank irrigation
  - 46. South west monsoon and north east monsoon.

ECONOMICS

47. Distinguish between capitalism and socialism.
  48. Define census and explain the details that are recorded in the population census
  49. Define the term inflation and explain demand pull inflation.
  50. Distinguish between Internal and International Trade.

## **PART IV**

N. B: i) Answer four of the following questions choosing two from Geography and two from Economics.  
ii) answer each question in a paragraph.

## GEOGRAPHY

51. How are great plains of India, very significant?
  52. What are the benefits of adopting Bio-technology in agricultural?
  53. What are the factors favor he location of the jute industry?
  54. Mention the advantages of railways
  55. What are the advantages of Remote Sensing?

ECONOMICS

56. What do you mean by socialism and explain the feature of socialism?
  57. What is unemployment? Explain the nature and causes of unemployment?
  58. Define the term GLP and explain each term with special reference to India.
  59. Calculate GDI, NDP, NNP with the help of date given below.

**GNP** = **Rs. 20,000/- Crores**

Depreciation	=	Rs. 3,000/-
Net Factor income	=	Rs. (-)1,500/-
Earned from Abroad (NFYEA)	=	

## **PART V**

Answer aby one of the following questions

60. Write an on Southwest Monsoon.
61. Urbanization leads to polution, deforestation, and ozone depletion-Explain.
62. Explain the role of energy source, sunrays and atmosphere, Sunrays and object on the earth in the process of remote sensing.

## **PART VI**

Mark the following on the outline map of India which is provided.

10 x 1 = 10

63. Tropic of Cancer
64. Aravalli Hill
65. Directin of South West Monsoon Winds.
66. Black soil region.
67. Manas will sanctuary.
68. Major rice giving areas.
69. Kosi Multipurpose project.
70. Iron and steel industrial center in West Bengal.
71. Air route between Mumbai and Delhi.
72. Andaman and Nicobar Islands with the their capital.

<b>BLUE PRINT – STANDARD X MATRICULATION BOARD EXAMINATION</b>							
<b>English – Paper II ( 100 Marks )</b>							
<b>SECTION</b>		<b>QUESTION TYPE</b>	<b>E</b>	<b>SA</b>	<b>VSA</b>	<b>O</b>	<b>TOTAL</b>
Part A  (Supplementary Reader)	<b>I</b>	Jumbled sentences to paragraph		$(1)^{5+5}$			10
	<b>II</b>	Comprehension			$(5)^2$		10
	<b>III</b>	Textual Essays	$(2/4)^{10}$				20
Part B (Textual Competencies in non textual passage / situation)	<b>IV</b>	Precis Writing		$(1)^{10}$			10
	<b>V</b>	Interpretation of Text / Graph / Notemaking		$(1)^5$			5
	<b>VI</b>	Editing and Drafting		$(1)^5$			5
	<b>VII</b>	Poem – Comprehension / paraphrasing		$(5)^2 / (1)^{10}$			10
	<b>VIII</b>	Letter Writing		$(1/3)^{10}$			10
	<b>IX</b>	Dialogue writing			$(1/2)^5$		5
	<b>X</b>	Interpretation / preparation of Brochure / Advertisement / Public Notice / Slogan		$(1)^5$			5
	<b>XI</b>	Expansion of Proverb		$(1/2)^{10}$			10
Total			20	65	15		100

**Note:** Figures within brackets indicate the number of questions and figures outside the bracket indicate marks for each question.

**MATRICULATION – MATHEMATICS – PAPER II**  
**BLUE PRINT**

S.No	Contents	PART - I								PART - II												PART - III						No. of Questions	Marks (Chapter Wise)	
		Section A				Section B				Section C				Section D				Section E				Section F				Section G				
		K	U	A	S	K	U	A	S	K	U	A	S	K	U	A	S	K	U	A	S	K	U	A	S	K	U	A	S	
1	Matrices	1	1	1	-	1	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	7	17	
2	Theoretical Geometry	1	2	2	-	1	1	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	26		
3	Co-ordinate Geometry	1	3	1	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	13	33		
4	Trigonometry	2	2	1	-	2	1	1	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	-	-	-	12	28		
5	Statistics	-	1	1	-	1	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	6	16		
6	Practical Geometry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	20			
	Distribution of Questions	5	9	6	-	6	6	3	-	1	1	1	-	-	2	2	-	-	1	2	-	-	2	2	-	-	2	51		
	Total Marks / (Objective Wise)	5	9	6	-	12	12	6	-	5	5	5	-	-	10	10	-	-	5	10	-	-	10	10	-	-	-	20	140	
	Total Marks / (Section Wise)	20				30				15				20				15				20				20				140

**Science Theory Paper – Physics****BLUE PRINT**  
**Maximum Marks – 50****Time : 1 ¼ Hours**

OBJECTIVES	KNOWLEDGE				UNDERSTANDING				APPLICATION				SKILL				TOTAL
	MCQ	VSA	SA	LA	MCQ	VSA	SA	LA	MCQ	VSA	SA	LA	MCQ	VSA	SA	LA	
Mechanics	1(1)	1(2)	1(3)				1(3)								1(5)		<b>14</b>
Light			1(3)								1(5)	1(1)	1(2)	1(3)			<b>14</b>
Electricity		1(2)			1(1)			1(5)				1(1)	1(2)	1(3)			<b>14</b>
Properties of Matter	1(1)		1(3)			1(2)		1(5)		1(2)							<b>13</b>
Modem Physics				1(5)	2(1)					1(3)			1(2)				<b>12</b>
X – rays & radioactivity	1(1)	1(2)								1(3)	1(5)						<b>11</b>
Universe	1(1)	1(2)	1(3)									1(1)					<b>7</b>
	4	8	12	5	3	2	3	10		2	6	10	3	6	6	5	<b>85</b>

MCQ – Multiple Choice Question ; VSA – Very Short Answer ; SA – Short Answer ; LA – Long Answer

Note : Figures with brackets indicate marks & figures outside the brackets indicate the number of question .

Scheme of Section : MCQ      VSA      SA      LA

Scheme of Options : 10/10      5/9      5/9      3/6

**SUBJET: CHEMISTRY**  
**UNIT / PAPER**

**BLUE PRINT**

**MAXIMUM MARKS: 50**

**CLASS: X**  
**TIME: 1.15 HRS**

S.NO	OBJECTIVES SUB UNITS	KNOWLEDGE				UNDERSTANDING				APPLICATION				SKILL				
		E	SA	VSA	O	E	SA	VSA	O	E	SA	VSA	O	E	SA	VSA	O	
1	Atomic Structure			(1) <sup>2</sup>	(1) <sup>3</sup>													<b>9</b>
2	Atomic Molecular & Equivalent Masses															(1) <sup>5</sup>		<b>9</b>
3	Laws of Chemical Combination				(1) <sup>3</sup>			(1) <sup>2</sup>							(1) <sup>5</sup>	(1) <sup>2</sup>		<b>8</b>
4	Chemical Reactions & Equilibrium						(1) <sup>3</sup>	(1) <sup>2</sup>									(1) <sup>1</sup>	<b>6</b>
5	Metallurgy			(1) <sup>2</sup>		(1) <sup>5</sup>			(1) <sup>4</sup>									<b>8</b>
6	Metals				(1) <sup>4</sup>	(1) <sup>5</sup>					(1) <sup>3</sup>							<b>9</b>
7	Non – metals							(1) <sup>2</sup>		(1) <sup>3</sup>							(1) <sup>1</sup>	<b>8</b>
8	Alcohols					(1) <sup>5</sup>			(1) <sup>1</sup>			(1) <sup>2</sup>						<b>8</b>
9	Ethers						(1) <sup>3</sup>					(1) <sup>2</sup>						<b>5</b>
10	Carbonyl Compounds						(1) <sup>3</sup>				(1) <sup>3</sup>		(1) <sup>1</sup>					<b>1</b>
11	Chemistry and Environment												(1) <sup>5</sup>			(1) <sup>1</sup>		<b>8</b>

**BLUE PRINT**

**SUBJET: BIOLOGY-BOTANY**  
**UNIT / PAPER**

**MAXIMUM MARKS: 50**

**CLASS: X**  
**TIME: 1.15 HRS**

UNITS	KNOWLEDGE ( 31 Marks)					UNDERSTANDING (25 Marks)					APPLICATION (20 Marks)					SKILL (9 Marks)					T O T A L
	MCQ	FIB	VSA	SA	LA	MCQ	FIB	VSA	SA	LA	MCQ	FIB	VSA	SA	LA	MCQ	FIB	VSA	SA	LA	
Levels of Organisation	1(1)	-	1(2)	-	-	-	-	-	1(5)	-	-	1(1)	-	-	-	-	-	-	-	-	4
Plant Physiology	1(1)	-	1(2)	-	1(10) )	-	-	1(2)	-	-	-	-	1(2)	-	-	-	-	1(2)	1(5)	-	7
Cell Biology	1(1)	-	-	1(5)	-	-	-	1(1)	-	-	-	-	-	-	1(5)	-	-	-	-	-	4
Reproduction in plants	1(1)			1(5)	-	-	-	-	1(2)	-	1(10)	-	-	-	-	-	-	1(2)	-	-	5
Economic Botany	-	1(1)	-	-	-	-	-	-	-	-	-	-	1(2)	-	-	-	-	-	-	-	2
Our Environment	1(1)	-	-	-	-	-	1(1)	1(2)	-	-	-	-	-	1(5)	-	-	-	-	-	-	4
Applied Biology	-	1(1)	-	-	-	-	-	1(2)	-	-	-	-	-	1(5)	-	-	-	-	-	-	3
<b>Total Marks</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>10</b>	<b>10</b>	-	<b>2</b>	<b>8</b>	<b>5</b>	<b>10</b>	-	<b>1</b>	<b>4</b>	<b>15</b>	-	-	-	<b>4</b>	<b>5</b>	-	<b>85</b>

**Note:** Skill (Diagram) – Compulsory question

**SUBJET: BIOLOGY-ZOOLOGY**  
**UNIT / PAPER**

**BLUE PRINT**  
**MAXIMUM MARKS: 50**

**CLASS: X**  
**TIME: 1.15 HRS**

**X STANDARD MATRICULATION NOARD QUESTION PAPER DESIGN AND BLUE PRINT**

UNITS	KNOWLEDGE					UNDERSTANDING					APPLICATION					SKILL					T O T A L
	MCQ	FIB	VSA	SA	LA	MCQ	FIB	VSA	SA	LA	MCQ	FIB	VSA	SA	LA	MCQ	FIB	VSA	SA	LA	
1. ORGANISATION	1(1)	-	-	1(5)	-	-	-	-	1(5)	-	-	-	-	-	-	-	-	-	-	11	
2. HUMAN PHYSIOLOGY	1(1)	-	1(2)	1(5)	-	-	1(10)	-	-	-	-	-	-	-	-	-	1(2)	-	-	23	
3. ANIMAL REPRODUCTION	1(1)	-	-	-	-	-	-	1(2)	-	-	-	-	1(2)	-	-	-	-	1(5)	-	10	
4. OUR ENVIRONMENT	-	-	1(2)	1(5)	-	-	-	-	-	-	1(1)	1(2)	-	-	-	-	-	-	-	10	
5. APPLIED EMBRYOLOGY	1(1)	-	-	-	-	-	1(1)	-	-	-	-	-	-	1(10)	-	-	-	-	-	12	
6. DISEASES AND IMMUNOLOGY	-	1(1)	-	1(5)	-	-	-	2(4)	-	-	1(1)	-	-	-	-	-	-	-	-	11	
7. APPLIED BIOLOGY	-	-	1(2)	-	-	-	-	-	1(5)	-	-	1(4)	-	-	-	-	-	-	-	8	
<b>TOTAL MARKS</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>5</b>	<b>-</b>	<b>85</b>

Note : Skill (Diagram ) – Compulsory Question

**BLUE PRINT OF THE MODEL QUESTION PAPER**  
**X – STD MATRILCULATION**

Time : 2 ½ Hrs

History & Civics

Max.Marks : 100

Divisions	Chapters	Knowledge				Understanding				Application				Skill				Total	
		O	CQ	SA	E	O	CQ	SA	E	O	CQ	SA	E	O	CQ	SA	E	Questions	Marks
History	<b>1 - 15</b>	10	-	5	10	10	25	10	-	10	10	-	-	-	-	-	Map 10		<b>100</b>
		7(10)	-	-	1(10)	8(1)	3(5)	-	-	5(1)	2(5)	-	-	-	-	-	1(10)		<b>65%</b>
		7	-	-	1	8	3	-	-	5	2	-	-	-	-	-	1	27	
Civics	<b>1 - 7</b>	3(1)	1(5)	-	-	2(1)	2(5)	2(5)	-	5(1)	-	-	-	-	-	-	-		<b>35%</b>
		3	1	-	-	2	2	1	-	5	-	-	-	-	-	-	14		
		10	5	-	10	10	25	10	-	10	-	-	-	-	-	-	10	41	<b>100%</b>

**Note :** O - Objective Type  
 CQ - Caption Questions  
 SA - Short Answer  
 E - Essay (2 pages)

**X STD MATRICULATION (NEW SYLLABUS)      GEOGRAPHY & ECONOMICS – BLUE PRINT**

<b>Chapter</b>	<b>Knowledge</b>					<b>Understanding</b>				<b>Application</b>					<b>Skill</b>				<b>Marks</b>	
1. India – Position	I <sub>(1)</sub>					I <sub>(1)</sub>	II <sub>(2)</sub>												4	
2. India – Physiography	I <sub>(1)</sub>	II <sub>(2)</sub>		IV <sub>(5)</sub>		I <sub>(1)</sub>		III <sub>(3)</sub>											12	
3. Climate ,Soil, Vegetarian and Wild life	I <sub>(1)</sub>		III <sub>(3)</sub>		V <sub>(10)</sub>		II <sub>(2)</sub>			I <sub>(1)</sub>		III <sub>(3)</sub>							20	
4. Irrigation and Multi Purpose Projects	I <sub>(1)</sub>		III <sub>(3)</sub>							I <sub>(1)</sub>	II <sub>(2)</sub>								7	
5. Environmental Issues and Management	I <sub>(1)</sub>		III <sub>(3)</sub>				II <sub>(2)</sub>			V <sub>(10)</sub>									16	
6. Agriculture		II <sub>(2)</sub>		IV <sub>(5)</sub>		I <sub>(1)</sub>				I <sub>(1)</sub>					Map				9	
7. Transport			III <sub>(3)</sub>			I <sub>(1)</sub>			IV <sub>(5)</sub>		II <sub>(2)</sub>				10				11	
8. Transport and Communication	I <sub>(1)</sub>						II <sub>(2)</sub>		IV <sub>(5)</sub>										8	
9. Project Work										I <sub>(1)</sub>	II <sub>(2)</sub>								3	
10. Remote Sensing		II <sub>(2)</sub>								I <sub>(1)</sub>		IV <sub>(5)</sub>	V <sub>(10)</sub>							18
11. Economic development and Economic Systems			III <sub>(3)</sub>			I <sub>(1)</sub>	II <sub>(2)</sub>		IV <sub>(5)</sub>										12	
12. Natural Resources and Economic problems facing our country		II <sub>(2)</sub>		IV <sub>(5)</sub>		I <sub>(1)</sub>		III <sub>(3)</sub>							I <sub>(1)</sub>				11	
13. Price and Cost Theory	I <sub>(1)</sub>							III <sub>(3)</sub>		I <sub>(1)</sub>						II <sub>(2)</sub>			7	
14. Trade						I <sub>(1)</sub>				I <sub>(1)</sub>	II <sub>(2)</sub>		IV <sub>(5)</sub>				III <sub>(3)</sub>		12	
15. National Income	I <sub>(1)</sub>			IV <sub>(5)</sub>		I <sub>(1)</sub>	II <sub>(2)</sub>								I <sub>(1)</sub>				10	
No. of Questions	8	4	5	4	1	8	6	3	3	1	7	4	1	2	1	2	1	1	Map	
Marks	8	8	15	20	10	8	12	9	15	10	7	8	3	10	10	2	2	3	10	170