

I. Read the lines given below and answer the questions that follow

17x1=17

“LIKE a huge Python, winding round and round  
The rugged trunk, indented deep with scars,  
Up to its very summit near the stars,  
A creeper climbs, in whose embraces bound  
No other tree could live.”

1. What is compared to a python here?
2. Which tree is referred to in the above lines?
3. Name the figure of speech used in the first line.

“.....But gallantly  
The giant wears the scarf, and flowers are hung  
In crimson clusters all the boughs among,  
Whereon all day are gathered bird and bee;”

4. What does ‘gallantly’ mean?
5. What does ‘crimson clusters’ mean?
6. What gathered among the boughs of the tree?
7. What does ‘boughs’ mean?
8. Name the figure of speech in the second line .

“And oft at nights the garden overflows  
With one sweet song that seems to have no close,  
Sung darkling from our tree, while men repose.”

9. What happens in the garden at night?
10. What do men do, when the nightingale sings?

“When first my casement is wide open thrown  
At dawn, my eyes delighted on it rest;  
Sometimes, and most in winter, - on its crest  
A gray baboon sits statue-like alone  
Watching the sunrise; while on lower boughs  
His puny offspring leap about and play;”

11. What gives delight to the poet?
12. What is baboon?
13. What does the gray baboon do sitting there?

“And far and near kokilas hail the day;  
And to their pastures wend our sleepy cows;  
And in the shadow, on the broad tank cast  
By that hoar tree, so beautiful and vast,  
The water-lilies spring, like snow enmassed.”

14. What is ‘Kokilas’?
15. What looks like ‘snow enmassed’?

“ Mayst thou be numbered when my days are done  
With deathless trees-like those in Borrowdale,”

16. What is ‘Borrowdale’?
17. What is the allusion referred here?

II. Explain any one of the following lines with reference to the context. 1x3=3

18. Dear is the Casuarina to my soul;
19. LIKE a huge python, winding round and round.

III. Answer any one of the following questions in a paragraph of 100-150 words: 1x5=5

20. Describe the reminiscences of the poet, when he sees the casuarina tree.
21. How does nature communicate with the poet?

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05.07.19 T.T - Biology Marks: 30  
 STD: XII (A,C) Time: 45 Mins

- I. Choose the correct answer: 2x1=2
- The number of chromosomes in diploid cell of ophioglossum is  
 a) 8            b) 1262            c) 34            d) 48
  - Crossing over occurs during \_\_\_\_\_ stage of meiosis.  
 a) Pachytene    b) Tetrad    c) Metaphase I    d) Metaphase II
- II. Answer any 4 of the following: 4x2=8
- What is Coupling or Cis configuration?
  - Define Recombination Frequency (RF) with formula.
  - List out the importance of crossing over.
  - List out the salient features of the chromosomal theory of Inheritance.
  - Define Fossil genes.
- III. Answer any one in detail: 1x5=5
- Describe the Mechanism of crossing over.

(or)

Write the steps involved in molecular mechanism of DNA recombination with diagram.

Bio-Zoology

- I. Answer any two of the following: 2x2=4
- Write a note on Genotype Alleles of ABO Blood group.
  - Write a note on foetoscope.
  - Write a note on ultra sound method to detect disorders.
- II. Answer any two of the following: 2x3=6
- Find out the Blood groups of children born to parents having  $I^A I^A \times I^B I^O$  and if the allele is Cde/Cde CDe/Cde.
  - Write a note on Wiener's hypothesis.
  - Explain Erythroblastosis foetalis.
- III. Answer any one in detail: 1x5=5
- Explain multiple alleles in A,B,O Blood group.
  - Explain Heterogametic females.

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05.07.19 T.T Computer Application Time: 45 Mins  
 Std: XII (F,G,H) Marks: 30

- I. Answer any 4 of the following: 4x2=8
- Define Single and multivalued attributes.
  - Write the difference between SQL and MySQL.
  - State few advantages of Relational database.
  - Define DBMS.
  - List any two DDL and DML commands with its syntax.
- II. Answer any 4 of the following: 4x3=12
- List any 5 privileges available in MySQL for the user.
  - Discuss on cardinality in DBMS.
  - Write few commands used by DBA to control the entire database.
  - Write a syntax for the following commands.  
 i) Create Database    ii) Drop Database  
 iii) Insert Record
  - What is relationship in databases? List its types.
- III. Answer any 2 in detail: 5x2=10
- Discuss in detail on various types of attributes in DBMS.
  - Discuss on various database models available in DBMS.
  - Explain in detail on sub queries with suitable examples.

05.07.19 T.T Business Maths Time: 45 Mins  
 Std: XII (F,G,H) Marks: 30  
 I. Choose the correct answer: 5x1=5

- $\int \frac{2x^3}{4+x^4} .dx$  is \_\_\_\_\_  
 a)  $\log |4 + x^4|+c$     b)  $\frac{1}{2} \log |4 + x^4| +c$   
 c)  $\frac{1}{4} \log |4 + x^4|+c$     d)  $\log \frac{2x^3}{4+x^4}+c$
- $\int_0^1 (2x + 1).dx$  is \_\_\_\_\_  
 a) 1                      b) 2                      c) 3                      d) 4
- $\int_{-1}^1 x^3 .e^{x^4} .dx$  is \_\_\_\_\_  
 a) 1                      b) 0                      c)  $e^{x^4}$                       d)  $2 \int_0^1 x^3 .e^{x^4} .dx$
- The value of  $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \cos x .dx$  is \_\_\_\_\_  
 a) 0                      b) 1                      c) 2                      d) 4
- $\int_0^\infty e^{-2x} .dx$  is \_\_\_\_\_  
 a) 0                      b) 1                      c) 2                      d)  $\frac{1}{2}$

II. Answer any 5 of the following: 5x3=15

6. Integrate with respect to x:
- $\frac{2x+5}{x^2+5x-7}$                       2)  $\frac{1}{x \log x}$                       3)  $\frac{6x+7}{\sqrt{3x^2+7x-1}}$
  - $e^{2x} \left(\frac{2x-1}{4x^2}\right)$                       5)  $e^x \left(\frac{x-1}{(x+1)^3}\right)$                       6)  $\frac{x^{e-1} + e^{x-1}}{x^e + e^x}$
  - $x \cdot \log x$

III. Answer any 2 of the following: 5x2=10

- Evaluate  $\int x^3 .e^{3x}$
- Evaluate  $\int (x^2 - 2x + 5) .e^{-x} .dx$
- Evaluate  $\int x^5 .e^{x^2} .dx$

05.07.19 T.T Maths Time: 45 Mins  
 Std: XII (B) Marks: 30  
 I. Choose the correct answer: 5x1=5

- If  $\omega = \text{cis} \frac{2\pi}{3}$ , then the number of distinct roots of  

$$\begin{vmatrix} z+1 & \omega & \omega^2 \\ \omega & z+\omega^2 & 1 \\ \omega^2 & 1 & z+\omega \end{vmatrix} = 0$$
 a) 1                      b) 2                      c) 3                      d) 4
- The product of all four values of  $\left(\cos \frac{\pi}{3} + i \sin \frac{\pi}{3}\right)^{\frac{3}{4}}$  is \_\_\_\_\_  
 a) -2                      b) -1                      c) 1                      d) 2
- If  $\alpha$  and  $\beta$  are the roots of  $x^2+x+1=0$ , then  $\alpha^{2020} + \beta^{2020}$  is  
 a) -2                      b) -1                      c) 1                      d) 2
- If  $\omega \neq 1$  is a cubic root of unit and  $(1+\omega)^7 = A+B\omega$ , then (A,B) equals  
 a) (1, 0)                      b) (-1, 1)                      c) (0, 1)                      d) (1, 1)
- The principal argument of  $\frac{3}{-1+i}$  is \_\_\_\_\_  
 a)  $-\frac{5\pi}{6}$                       b)  $-\frac{2\pi}{3}$                       c)  $-\frac{3\pi}{4}$                       d)  $-\frac{\pi}{2}$

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

- Find the modulus of  $2i(3-4i)(4-3i)$
- Obtain the cartesian form of the locus of  $z=x+iy$  in  $[\text{Re}(iz)]^2=3$
- Show that the following equation represent a circle and find its centre and radius  $|3z - 6 + 12i|=8$ .
- Write the cartesian form of the locus of  $z$  in  $\text{Im}((1-i)z+1)=0$ .

III. Answer for any 3 of the following: 3x3=9

- Obtain the cartesian equation for the locus  $z=x+iy, |z - 4|=6$ .
- Obtain the cartesian equation for the locus of  $z$  is  $|z + i|=|z - 1|$
- Find the square root of  $-5-12i$
- Which one of the points  $10-8i, 11+6i$  is closest to  $1+i$ .

IV. Answer for any 2 of the following: 2x5=10

- If  $|z|=2$ , show that  $7 \leq |z + 6 - 8i| \leq 13$ .
- If  $z=x+iy$  is a complex number such that  $\text{Im}\left(\frac{2z+1}{iz+1}\right) = 0$ , show that the locus of  $z$  is  $2x^2+2y^2+x-2y=0$ .
- If  $z_1, z_2$  and  $z_3$  are three complex numbers such that  $|z_1| = 1, |z_2|=2, |z_3| = 3$  and  $|z_1 + z_2 + z_3|=1$  show that  $|9z_1z_2 + 4z_1z_3 + z_2z_3|=6$ .

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05.07.19 T.T Accountancy Time: 45 Mins  
Std: XII (I,J) Marks: 40  
I. Answer the following: (10 Marks)

1. From the following Receipts and Payments A/c of Friends Football club, for the year ending 31<sup>st</sup> March, 2017, prepare Income and Expenditure Account for the year ending 31<sup>st</sup> March, 2017 and the Balance sheet as on that date.

In the books of Friends Football Club

Receipts and Payments Account for the year ended 31<sup>st</sup> March, 2017.

Dr. Cr.

Receipts	₹	₹	Payments	₹	₹
To Balance b/d			By Furniture		7,000
Cash	1,000		By Sports materials		800
Bank	10,000	11,000	purchased		
To Subscriptions		5,000	By Special dinner		1,500
To Legacies		6,000	expenses		
To Collection for			By Electricity		900
special dinner		2,000	charges		
			By Balance c/d		
			Cash in hand	1,800	
			Cash at bank	12,000	13,800
		24,000			24,000

Additional information:

- The club had furniture of ₹12,000 on 1<sup>st</sup> April 2016. Ignore depreciation on furniture.
- Subscription outstanding for 2016-2017 ₹600.
- Stock of sports materials on 31.03.2017 ₹100.
- Capital fund as on 1<sup>st</sup> April 2016 was ₹23,000.

2. The following is the Receipts and Payments account of Madurai City Club for the year ending 31<sup>st</sup> March, 2018. (15 Marks)

Madurai City Club

Receipts and Payments Account for the year ended 31<sup>st</sup> March, 2018

Dr. Cr.

Receipts	₹	₹	Payments	₹	₹
To Balance b/d			By Upkeep of ground		16,500
Cash	500		By Match expenses		19,000
Bank	7,000	7,500	By Sundry expenses		11,000
To Subscription			By Furniture		20,000
(including ₹4,000			By Balance c/d		
for 2016-17)			Cash in hand	1,500	
To Legacies		30,000	Cash at bank	11,000	12,500
To Hall rent		9,000			
To Receipts for		10,000			
match fund		22,500			
		79,000			79,000

3. From the following Receipts and Payments A/c of Sivakasi Pensioner's Recreation Club, prepare income and expenditure account for the year ended 31<sup>st</sup> March, 2018 and the balance sheet as on that date.

Receipts and Payments A/c for the year ended 31<sup>st</sup> March, 2018  
Dr. Cr.

Receipts	₹	₹	Payments	₹
To Balance b/d			By Rent and rates	18,000
Cash in hand	10,000		By Electricity	
Cash at bank	20,000	30,000	charges	17,000
To Subscription			By Furniture	
2016-17	5,000		purchased	12,000
2017-18	25,000		By Billiards table	
2018-19	6,000		Purchased	70,000
		36,000	By Repairs and	
To Legacies		40,000	renewals	16,000
To Rent from hall		14,000	By Special dinner	
To Lockers rent		5,000	expenses	4,000
To Collection for			By Sundry	
special dinner		12,000	expenses	2,000
To Balance c/d			By Balance c/d	
Bank overdraft		3,000	Cash in hand	1,000
		1,40,000		1,40,000

Additional information:

- The club had 300 members each paying ₹100 as annual subscription.
- The club had furniture ₹10,000 on 1.4.2017.
- The subscription still due but not received for the year 2016-2017 is ₹1,000.

I. Answer any 4 of the following:

1. What is the use of Indentation?
2. Write the syntax of range( ) with example.
3. What is the use of jump statement?
4. Write the syntax of if & if.....else structure.
5. Define Control Structures and write its types.

4x3=12

II. Answer any 4 of the following:

6. Distinguish between break and continue statements.
7. Write a program to find the largest of 3 numbers using if....else .....elif statement.

8. Write a note on for loop.

9. Write the output of the following program.

```
for word in "Jump Statement":
```

```
    if word= = "e":
```

```
        break
```

```
        print (word, end=' ' )
```

10. Define Pass Statement.

2x5=10

III. Answer the following in detail:

11. Write a program to display the following output.

9

8

7

6

5

4

3

2

1

0

Thank You

12. Write a program to display the pattern:

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5