BRAIN INTERNATIONAL SCHOOL

SUBJECT: ENGLISH   CLASS: XI   JULY'21

The Landscape of the Soul

Q1.   How was Quinten Metsys able to marry the painter's daughter?

Q2. What is the fundamental notion of Daoism?

Q3. What does a European painter want from the viewer?

The Laburnum Top

Q4. What is the significance of 'yellow' in the poem?

 Q5. Reference to Context:

Then sleek as a lizard, and alert, and abrupt,
She enters the thickness, and a machine starts up
Of chittering and a tremor of wings, and trilling
The whole tree trembles and thrills.

   a)   Who is 'she' in the second line? Where does she enter?
   b)   What does 'machine' refer to in the extract?
   c)   Find a word from the extract which is the synonym of 'entire'.

Ranga's Marriage

Q6. What were Ranga's views about marriage at the beginning of the story?

Q7. Why and how did the narrator bring Ratna and Ranga closer?

Q8. How does the narrator describe Hosahalli village?

Writing Skills

Q9. You are the Director of Disaster Management Authority. You want to make people aware about earthquakes. Draw a poster for the same.

Q10. Write a suitable matrimonial advertisement for your smart, educated, good-looking daughter. Draft an advertisement for publication in the newspaper. You are Rajat/Radhika Sharma, resident of D-71, Karol Bagh, Delhi.

BRAIN INTERNATIONAL SCHOOL

SUBJECT: POL.SCIENCE   **CLASS: XI**   **JULY'21**

CHAPTER-FREEDOM

Q1. What is meant by Freedom? Is There a relationship between freedom of individual and freedom for the nation?

Q2. Differentiate between the negative and positive liberty.

Q3. What is meant by Social Constraints?Are constraints of any kind necessary for enjoying freedom?

Q4. Define Self regarding and Other Regarding.

Q.5.Who is J.S Mill?

CHAPTER 3: THE BASES OF HUMAN BEHAVIOR

1. Differentiate between sensory and motor nerves.
2. What is "All or none law"?
3. Discuss the functions of peripheral nervous system.
4. What are the important determinants of human behavior?
5. Draw a well-labelled diagram of a neuron.

CHAPTER 4: HUMAN DEVELOPMENT

1. Explain the principles of heredity.
2. What are the two features of proportional thought?
3. How do adolescents form their own identity?
4. Discuss in detail: Delinquency.
5. Describe in detail how the various abilities occur in the stage of infancy.

CHAPTER : PRESENTATION OF DATA

1) Describe the main parts of a table.

2) Which type of diagram will be used to show two or more characteristics of the data?

3) Which bar diagram is known as simple bar diagram?

4) Name the form of presentation to which the following example relates.

　40% of India's population lives below the poverty line and top 20% population commands 70% of the national income.

5) Briefly explain any four factors which should be kept in mind while preparing a table.

6) Rice yield per hectare is given below. Show the data diagrammatically.

Year	1999-2000	2000-2001	2201-2002	2002-2003	2003-2004	2004-2005	2005-2006
Yield per hectare(in kg)	668	1013	1123	1235	1336	1552	1482

7) Construct a pie diagram to represent the cost of construction of a house in Delhi.

Items	Labour	Bricks	Cement	Steel	Timber	Supervision
Expenditure (in %)	25	15	20	15	10	15

BRAIN INTERNATIONAL SCHOOL

SUBJECT : MATHEMATICS   **CLASS : XI**   **JULY'21**

CHAPTER : PMI , COMPLEX NUMBERS

Q1. Let P(n) be a statement ; $2^n < n, n \in N$. Show that statement is not true for any n.

Q2. If P(n) is a statement "$12n + 5$ is a multiple of 13". Show that P(2) is false whereas P(5) is true.

Q3. Using the principle of mathematical induction, prove that 3^{2n} when divided by 8, leaves the remainder 1, for all $n \in N$.

Q4. Using the principle of mathematical induction, prove that $2^{3n} - 1$ is divisible by 7 for all $n \in N$.

Q5. Using the principle of mathematical induction, prove that $\left(1 + \frac{1}{1}\right) \left(1 + \frac{1}{2}\right) ... \left(1 + \frac{1}{n}\right) = (n + 1)$ for all $n \in N$.

Q6. Prove that $1 + 2 + 3 + ... + n < \frac{1}{8} (2n + 1)^2$, for all $n \in N$.

Q7. Using the principle of mathematical induction, prove that $41^n - 14^n$ is divisible by 27, for all $n \in N$.

Q8. Prove that $(1 + x)^n \geq 1 + nx \; for \; x > 0, n \in Z^+$.

Q9. Using the principle of mathematical induction, prove that $1^2 + 2^2 + ... + n^2 > \frac{n^3}{3}$ for all $n \in N$.

Q10. Using the principle of mathematical induction, show that $n(n + 1)(n + 5)$ is natural number, for all $n \in N$.

Q11. Using the principle of mathematical induction, prove that $\frac{n^5}{5} + \frac{n^3}{3} + \frac{7n}{15}$ is a natural number, for all $n \in N$.

Q12. Prove that $2n + 7 < (n + 3)^2$ for all $n \in N$.

Q13. Using the principle of mathematical induction, prove that $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + ... + \frac{1}{2^n} = 1 - \frac{1}{2^{n-1}}$ $n \in N$.

Q14. Solve for $x : x^2 + 24 = 0$

Q15. Express, $\left(- \sqrt{3} + \sqrt{-2}\right) \left(2\sqrt{3} - i\right)$, in the form $a + ib$.

Q16. Represent the complex number $-1 - i$, in the polar form.

Q17. What is conjugate of, $\dfrac{\sqrt{5+12i} + \sqrt{5-12i}}{\sqrt{5+12i} - \sqrt{5-12i}}$?

Q18. Represent the complex number, $\dfrac{-4}{1+\sqrt{3}\,i}$ in polar form.

Q19. If $(1 + 2i)(2 + 3i)(3 + 4i) = x + iy$. Show that $x^2 + y^2 = 1625$.

Q20. If $a + ib = \dfrac{c+i}{c-i}$, where a, b, c are real, prove that, $a^2 + b^2 = 1$ and $\dfrac{b}{a} = \dfrac{2c}{c^2-1}$.

Q21. If $z = 1 + i$, evaluate $z^3 - 2\,z^2 + 3z - 4$.

Q22. If $4x + i\,(3x - y)$ is conjugate of $3 + 6i$ for $x, y \in R$, find x and y.

Q23. Where does z lies on plane if $\left|\dfrac{z-5i}{z+5i}\right| = 1$?

Q24. $|z_1| = |z_2| = |z_3| = 1$ show that $|z_1 + z_2 + z_3| = \left|\dfrac{1}{z_1} + \dfrac{1}{z_2} + \dfrac{1}{z_3}\right|$.

Q25. Find the square roots of $-16 + 30i$.

Q26. Find real θ, such that $\dfrac{3+2i\sin\theta}{1-2i\sin\theta}$ is purely real.

SUBJECT: I.P   **CLASS: XI**   **JULY'21**

Ch-4: Working with Lists and Dictionaries

1. What will be the output of the following code segment:

```
myList = [1,2,3,4,5,6,7,8,9,10]
for i in range(0,len(myList)):
        if i%2 == 0:
                print(myList[i])
```

2. What will be the output of the following code segment:

```
a. myList = [1,2,3,4,5,6,7,8,9,10]
   del myList[3:]
   print(myList)
b. myList = [1,2,3,4,5,6,7,8,9,10]
   del myList[:5]
   print(myList)
c. myList = [1,2,3,4,5,6,7,8,9,10]
   del myList[::2]
   print(myList)
```

3. Differentiate between append() and extend() functions of list.

4. Consider a list:

```
list1 = [6,7,8,9]
```

What is the difference between the following operations on list1:

```
a. list1 * 2
b. list1 *= 2
c. list1 = list1 * 2
```

5. The record of a student (Name, Roll No., Marks in five subjects and percentage of marks) is stored in the following list:

```
stRecord = ['Raman','A-36',[56,98,99,72,69],78.8]
```

Write Python statements to retrieve the following information from the list stRecord.

a) Percentage of the student

b) Marks in the fifth subject

c) Maximum marks of the student

d) Roll no. of the student

e) Change the name of the student from 'Raman' to 'Raghav'

6. Write a program to find the number of times an element occurs in the list.

7. Write a program to read a list of n integers (positive as well as negative). Create two new lists, one having all positive numbers and the other having all negative numbers from the given list. Print all three lists.

8. Write a function that returns the largest element of the list passed as parameter.

9. Write a function to return the second largest number from a list of numbers.

10. Write a program to read a list of elements. Modify this list so that it does not contain any duplicate elements, i.e., all elements occurring multiple times in the list should appear only once.

11. Consider the following dictionary stateCapital:

stateCapital =

{"AndhraPradesh":"Hyderabad","Bihar":"Patna","Maharashtra":"Mumbai","Rajasthan":"Jaipur"

}

Find the output of the following statements:

i. print(stateCapital.get("Bihar"))

ii. print(stateCapital.keys())

iii. print(stateCapital.values())

iv. print(stateCapital.items())

v. print(len(stateCapital))

vi print("Maharashtra" in stateCapital)

vii. print(stateCapital.get("Assam"))

viii. del stateCapital["Andhra Pradesh"]

print(stateCapital)

12. Write a Python program to find the highest 2 values in a dictionary.

13. Write a Python program to create a dictionary from a string.

Note: Track the count of the letters from the string.

Sample string : 'w3resource'

Expected output : {'3': 1, 's': 1, 'r': 2, 'u': 1, 'w': 1, 'c': 1, 'e': 2, 'o': 1}

14. Write a program to input your friends' names and their Phone Numbers and store them in the dictionary as the key-value pair. Perform the following operations on the dictionary:

a) Display the name and phone number of all your friends

b) Add a new key-value pair in this dictionary and display the modified dictionary

c) Delete a particular friend from the dictionary

d) Modify the phone number of an existing friend

e) Check if a friend is present in the dictionary or not

f) Display the dictionary in sorted order of names

BRAIN INTERNATIONAL SCHOOL

SUBJECT: PHYSICAL EDUCATION   CLASS XI   JULY'21

UNIT 1: Changing Trends & Career in Physical Education

Q1. What is Physical Education? Write down its significance.

Q2. Explain the aim and objectives of physical education?

Q3. Discuss about the various career options in Physical Education.

Q4. Write down about various competitions at national and international level.

Q5. White a short note on Khelo India Program.