CLASS XII
SAMPLE PAPER
COMPUTER SCIENCE

Computer Science with Python (New)

SECTION-A

Q1. Which of the following isa valid relational operator in Python: **1**

i)=>

ii)=!

iii)==

iv)>=

Q2. Write the type of tokens from the following:- **1**

(i)else

(ii)stu_no

Q3. Name the python Library modules which need to be imported to invoke the following functions:- **1**

(i)randint() (ii)linspace()

Q4. Rewrite the following code in python after removing all syntax error(s). **2**

Underline each correction done in the code.

```
marks={'hin'-30,'eng'-40,'math'-50}
For key in Marks
    print(marks[key])
```

Q5. Find and write the output of the following python code: **2**

```
def SI(p=1000,r,t=1):
    SI=p*r*t/100

    print(p,r,t,SI)
check(2)
check(2000,2)
```

Q6. Find and write the output of the following python code: **3**

```
def fun(s):
    k=len(s)
    m=''
    for i in range(0,k):
        if s[i].isupper():
            m=m+s[i].lower()
        elif s[i].isdigit():
            m=m+'##'
        else:
            m=m+'&&'
    print(m)
fun('PREboaRd2020')
```

Q7. What possible output(s) is /are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables start and end. **2**

```
import random
DATA=[20,40,10,30,15]
Start=random.randint(0,2)
```

```
end=random.randint(1,4)
for c in range(start+1,end)
        print(DATA[c],"#",end=")
```

(i)50#20#40#

(ii)40#30#10#

(iii)50#40#20#

(iv)10#10#40#

Q8. What do you understand by while..elseloop? Explain with an example. **1**

Q9. Find the output: **1**

(i) 'Technology'.rstrip("goloy")

(ii)
```
alist=[1,2,3,4,5,6,7,8,9]
print(alist[::-2])
```

Q10. Identify the valid declaration of L: **1**

L=([1,2],[3,4])

Q11. Find the output:- **1**

```
import numpy as np
List=np.arange(1,5)
for i in range(4):
        List[i]=i//2
print(List)
```

Q12. Find the output:- **1**

```
p=-6
def f():
        a=6
        print(a)
```

```
        a=a+2
        print(a)
    print(a)
    f()
    print(a)
```

Q13. What do you understand by local and global scope of variable? How can you access a global variable inside the function, if function has a variable with same name. **2**

Q14. Write a Python program to display a double bar chart of the number of students in a class. Use different colours for each bar. **2**

Stream:-Science,Commerce,Humanities,Vocational

Strengths in 2019:- 40,43,45,49

Strength in 2020:-42,35,38,36

OR

Give the output from the given python code:

```
import matplotlib.pyplot as xyz
slices = [3,23,32,34]
activities = ['running','dancing','swimming','drawing']
cols = ['r','b','k','g']
xyz.pie(slices,labels=activities,colors=cols,explode=(0,0.1,0,0),aut
opct='%1.1f%%')
xyz.title('Pie Plot')
xyz.show()
```

Q15. Write a program to that copies one file to another. Have the program read the file names from user? **2**

OR

Write a method DISPLAYWORDS() in python to read lines from a text file STORY.TXT and display those words, Whose first character is in Uppercase.

Q16. Write a recursive program to reverse a given string. **3**

OR

Write a Recursive function in python BinarySearch(ARR,I,R,X) to search the given element X to be searched from the list Arr having R elements, where I represents lower bound and R represents the upper bound.

Q17. Write a function INSERTQ(Arr,data) and DELETE(Arr) for performing insertion and deletion operation in a Queue. Arr is the list used for implementing queue and data is the value to be inserted. **4**

OR

Write a function in python, MAKEPUSH(Package) and MakePop(Package) to add a new package and delete a package from a List of Package Description, considering them to act as push and pop operation of stack data structure.

SECTION-B

Q18. ..... is an collision detection technique in wireless transmission in which sender first send signal then data. **1**

Q19. In.....massage signal is superimposed with Carrier Signal before transmission. **1**

Q20. .....is a type of wired transmission in which data **1**

is transmitted in form of light.

Q21. ..... is a device that works like a bridge but cam handle different protocols. **1**

Q22. Give the full form of the following: **2**

(i) IoT

(ii) Wi-Fi

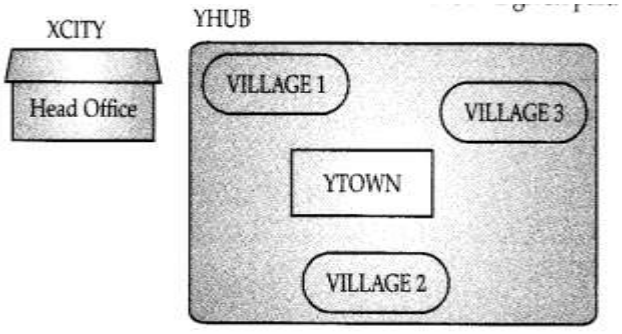
(iii) FTP

(iv) RFID

Q23. What is cloud? How Public Clod is different from private cloud. **2**

Q24. What do you mean by modulation? Differentiate between amplitude and frequency modulation by wave diagram. **3**

Q25. Intelligent Hub India is a knowledge community aimed to uplift the standard of skills and knowledge in the society. It is planning to setup its training centres in multiple towns and villages pan India with its head offices in the nearest cities. They have created a model of their network with a city, a town and 3 villages as given. As a network consultant, you have to suggest the best network related solution for their issues/problems raisedin (i) to (iv) keeping in mind the distance between various locations and given parameters. **4**



Shortest distance between various locations:

VILLAGE 1 To YTOWN	2 KM
VILLAGE 2 To YTOWN	1.2 KM
VILLAGE 3 To YTOWN	3 KM
VILLAGE 1 To VILLAGE 2	3.5 KM
VILLAGE 1 To VILLAGE 3	4.5 KM
VILLAGE 2 To VILLAGE 3	3.5 KM
CITY Head office to YHUB	30 KM

Number of computers installed at various locations are as follows:

YTOWN	100
VILLAGE 1	10
VILLAGE 2	15
VILLAGE 3	15
CITY OFFICE	5

Note:

• In Villages, there are community centres, in which one room has been given as training center to this organization to install computers.

• The organization has got financial support from the government and top IT companies.

1. Suggest the most appropriate location of the SERVER in the YHUB (out of the 4 locations), to get the best and effective connectivity. Justify your answer.
2. Suggest the best wired medium and draw the cable layout (location to location) to efficiently connect various locations within the YHUB.

3. Which hardware device will you suggest to connect all the computers within each location of YHUB?
4. Which server/protocol will be most helpful to conduct live interaction of Experts from Head office and people at YHUB locations?

SECTION-C

Q26. Which command is used to delete existing column from a table? **1**

Q27. Which command is used to rearrange the records of table? **1**

Q28. Explain the differerence beteen count(EMPID) and count(*). **1**

Q29. Which command is used to delete complete structure of table? **1**

Q30. Differentiate between Primary Key and Candidate Key **2**

OR

Differentiate between Degree and cardinality.

Q31. Name the files that are found in Django project web application folder. **2**

Q32 **Table: DRESS** **3**

DCODE	DESCRIPTION	PRICE	MCODE	LAUNCHDATE
10001	FORMAL SHIRT	1250	M001	2008-10-25
10020	FROCK	750	M004	2008-12-26
10012	INFORMAL SHIRT	1450	NULL	2009-10-25
10019	EVENING GOWN	850	NULL	2007-05-20

10090	TULIP SKIRT	850	M002	2006-01-02
10023	PENCIL SKIRT	1250	M003	2008-08-12
10089	SLACKS	850	M003	2009-08-08
10007	FORMAL PANT	1450	M001	2010-04-15
10009	INFORMAL PANT	1400	M002	2011-02-11
10024	BABY TOP	650	NULL	2006-05-21

a) SELECT MAX(LAUNCHDATE),MIN(LAUNCHDATE) FROM DRESS.

b) SELECT SUM(PRICE) FROM DRESS WHERE DESCRIPTION LIKE '%INFO%;

c) SELECT COUNT(*),COUNT(MCODE) FROM DRESS.

Q33. Write SQL queries for (i) to (iv) which are based on the table: DRESS given in above question:- **4**

i) To display the records of table in ascending order as per PRICE.

ii) To increaseprice of all DRESS by 20%.

iii) To display records of all Dresses whose price in range between 600 -900.

iv) Display details of all type SHIRT.

SECTION-D

Q34. Explain two possible solution for Gender issue while choosing computer science as subject. **1**

Q35. Explain two economic befits of ICT. **1**

Q36. Explain Benefits of e-Waste Recycling. **2**

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