KENDRIYA VIDYALAYA SANGATHAN RANCHI REGION

SESSION ENDING EXAMINATION 2020-21

SUB: COMPUTER SCIENCE (083)

CLASS – XI
SAMPLE PAPER SET-I
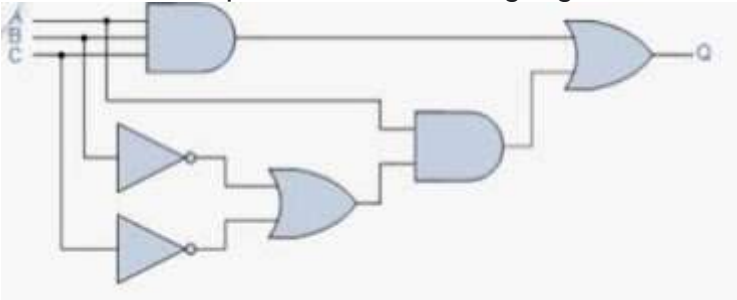
Time: 3 Hours   Max. Marks: 70

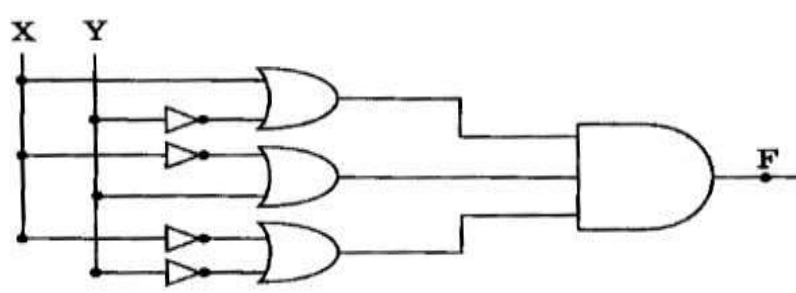### General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
    a. Section – I is short answer questions, to be answered in one word or one line. Attempt any 15 questions.
    b. Section – II has two case studies questions. Each case study has 4 case-based subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
    a. Section-I is short answer questions of 2 marks each in which two questions internal options have.
    b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
    c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

	PART-A **SECTION-I**	
Q1.	Components that provide internal storage to the CPU is: (i) Registers　　　　　　　　　(ii) Program Counters (iii) Controller　　　　　　　　(iv) Internal Chips	**[1]**
Q2.	Which of the following is used to hold the running program instructions? (i) Primary Storage　　　　　(ii) Virtual Storage (iii) Internal Storage　　　　　(iv) Minor Device	**[1]**
Q3.	Boolean expression Y+YZ =? (i) Y　　　　　(ii) Z　　　　　(iii) 1　　　　　(iv) 0	**[1]**

Q4.	2's compliment of 1010 is	[1]
	(i) 110 (ii) 1111 (iii) 1010 (iv) 0	
Q5.	Which of the following are not valid string in Python?	[1]
	(i) "Hello" (ii) 'Hello' (iii) "Hello' (iv) {Hello}	
Q6.	Which of the following is not a characteristics of a computer?	[1]
	(i) Diligence (ii) I.Q (iii) Accuracy (iv) Versatility	
Q7.	Python was developed by ……………………………… in February 1991.	[1]
Q8.	A……………….. is an elementary unit of the memory	[1]
Q9.	A set of wires/cables to carry binary information to or from input/output devices and memory is called…………..	[1]
Q10.	Microphone (Mic) is a …………...device.	[1]
Q11.	The hexadecimal digits are 1 to 0 and A to_____	[1]
Q12.	Which amongst this is not an octal number?	[1]
Q13	The boolean expression of following logic circuit is : *	[1]
	(i) (A+B).C'+B (ii) A'B'+C+B'A (iii) A.B.C+(B'+C').A (iv) A+B+C'(A+B)	
Q14.	What shape represents a decision in a flow chart? *	[1]

Q15.	What is parallel computing?	[1]

Q16.	**What is the output?**
	a = 5
	if x:
	      print ("Good")
	else:
	      print("By")
		[1]

Q17.	What will be the output of above Python code? ```\nstr1="6/4"\nprint("str1")\n``` (i) 1 (ii) 6/4 (iii) 1.5 (iv) str1	[1]
Q18.	Which of the following will give "Simon" as output? ```\nIf str1="John,Simon,Aryan"\n``` (i) print(str1[-7:-12]) (ii) print(str1[-11:-7]) (iii) print(str1[-11:-6]) (iv) print(str1[-7:-11])	[1]
Q19.	Which of the following creates a tuple? (i) tuple1=("a","b") (ii) tuple1[2]=("a","b") (iii) tuple1=(5)*2 (iv) None of the above	[1]
Q20.	What is identity theft?	[1]
Q21.	In Python, how are arguments passed? (i) pass by value (ii) pass by reference (iii) It gives options to user to choose (iv) Both A and B	[1]
	PART-A **SECTION-II**	
	Each case study has 4 case-based subparts.	

Q22.	The school offers wireless facility (wifi) to the Computer Science students of Class XI. For communication, the network security staff of the school have a registered URL schoolwifi.edu. On 17 September 2017, the following email was mass distributed to all the Computer Science students of Class XI. The email claimed that the password of the students was about to expire. Instructions were given to go to URL to renew their password within 24 hours.	

	(a) Do you find any discrepancy in this email? .	**[1]**
	(b) What will happen if the student will click on the given URL?	**[1]**
	(c) Is the email an example of cyber crime? If yes, then specify which type of cyber crime is it. Justify your answer	**[1]**
	(d) Whether this is example of Identity theft?	**[1]**
	(e) Is the email an example of Hacking? If yes, then justify your answer	**[1]**
Q23.	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	**[1]**
	(b) Marks in the fifth subject	**[1]**
	(c) Maximum marks of the studen	**[1]**
	(d) Roll no. of the student	**[1]**
	(e) Change the name of the student from 'Raman' to 'Raghav'	**[1]**

PART-B
SECTION-I

Q24.	Predict the output of following code snippet:
	
	  (i) **x, y=20,60** **(ii)** **a, b=12,13**
	             y, x, y=x, y-10, x+10 **c, b=a*2,a/2**
	             print(x, y) **print(a, b, c)**
		[2]

Q25.	What are the basic function of operating system?	**[2]**
Q26.	What do you mean by memory devices? Explain RAM and ROM.	**[2]**
Q27.	What is SoC? How it is different from CPU?	**[2]**

Q28.	Find and write the output of the following Python program code :
	
	      >>>print (3**2 + 18/9 - 3**4+1)
	
	      >>>print (12%5*3+(2*6) // 4)
		[2]

Q29.	Explain the following terms:
	
	    (i) Assembler
	    (ii) Compiler
	    (iii) Interpreter
		[2]

Q30.	Name the law shown below and verify it using a truth table. **A + B.C=(A+B).(A+C)**	**[2]**
Q31.	Write the equivalent Boolean expression for the following Logic Circuit : 	**[2]**

Q32.	Convert the following base of number system: (i) $(1010100.011)_2 = (..................)_{10}$ (ii) $(3674)_8 = (.....................)_2$ (iii) $(72905)_{10} = (.....................)_{16}$ (iv) $(B2F)_{16} = (.................)_8$	**[2]**
Q33.	What is the difference between a keyword and an identifier? OR Name the Primitive data types in python. Explain mutable and immutable data types in python	**[2]**
	PART-B **SECTION-II**	

Q34	Find out the error(s) in following code fragments and rewrite corrected code?
	
	(i) **max temp=30**
	   print max temp
	
	(ii) **a=30**
	   b= a+b
	   print(a And b)
	
	(iii) **a, b, c = 2, 8, 9**
	   print (a ; b; c)
	
	(iv) **name= "Hari"**
	   print (name)
	   name[2] = 'R'
	   print(name)
		[3]
| **Q35.** | Consider the following string mySubject:<br><br>```
mySubject = "Computer Science"
```<br>What will be the output of the following string operations :<br><br>```
A. print(mySubject[0:len(mySubject)])
B. print(mySubject[-7:-1])
C. print(mySubject[::2])
D. print(mySubject[len(mySubject)-1])
E. print(2*mySubject)
F. print(mySubject[::-2])
``` | **[3]** |
| **Q36.** | **Find the output of the give program :**<br><br>```
def Change(P ,Q=30):
    P=P+Q
``` | **[3]** |

```
        Q=P-Q
        print( P,"#",Q)
        return (P)
R=150
S=100
R=Change(R,S)
print(R,"#",S)
S=Change(S)
```

<div align="center">**OR**</div>

Find the output of the following

```
Text="gmail@com"
L=len(Text)
ntext=""
for i in range (0,L):
    if text[i].isupper():
         ntext=ntext+text[i].lower()
    elif text[i].isalpha():
         ntext=ntext+text[i].upper()
    else:
         ntext=ntext+'bb'
print(ntext)
```

Q37.	What will be the output of the following statements?	[3]

	A. `list1 = [12,32,65,26,80,10]`
	`list1.sort()`
	`print(list1)`	

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

	C. `list1 = [1,2,3,4,5,6,7,8,9,10]`
	`list1[::-2]`
	`list1[:3] + list1[3:]`	

	D. `list1 = [1,2,3,4,5]` `list1[len(list1)-1]`	
Q38.	Explain the following with help of suitable example (i) Flow Chart (ii) Decision Tree (iii) Pseudo-code **OR** Explain the following with help of suitable example (i) Cybre bullying (ii) Plagiarism (iii) Hacking	[3]

PART-B

SECTION-III

Q39	Write a Python program to calculate the compound interest. The principal, rate of interest and time must be entered by the user. (Formula: Compound Interest = Principal $(1 + Rate/100)^{Time}$)	**[3]**
Q40	Write a program that creates a GK quiz consisting of any five questions of your choice. The questions should be displayed randomly. Create a user defined function score() to calculate the score of the quiz and another user defined function remark (score value) that accepts the final score to display remarks as follows:	**[4]**

Marks	Remarks
5	Outstanding
4	Excellent
3	Good
2	Read more to score more
1	Need to take interest
0	General knowledge will always help you. Take it seriously.

Q41	Write a function to convert a number entered by the user into its corresponding number in words. For example, if the input is 876 then the output should be 'Eight Seven Six'. (Hints. Use dictionary for solving this problem)	**[4]**
Q42	Program to find prime numbers between 2 to 50 using nested for loops. **OR** Write a function that checks whether an input number is a palindrome or not. [*Note*: A number or a string is called palindrome if it appears same when written in reverse order also. Forexample, 12321 is a palindrome while 123421 is not a palindrome]	**[4]**

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