

केन्द्रीय विद्यालय संगठन, कोलकाता संभाग
KENDRIYA VIDYALAYA SANGATHAN, KOLKATA REGION
सत्रांत परीक्षा /SESSION ENDING EXAMINATION 2025-26

कक्षा/CLASS: XI

अधिकतम. अंक/ MAX MARKS: 70

विषय/SUB: COMPUTER SCIENCE (083)

समय/TIME : 3 Hrs./ घंटे

General Instructions:

- This question paper contains five sections, **Section A to E.**
- **All questions are compulsory.**
- **Section-A** have 18 questions (01 to 18) carrying 01 mark each.
- **Section-B** has 07 Very Short Answer type questions (19-25) carrying 02 marks each.
- **Section-C** has 05 Short Answer type questions(26-30) carrying 03 marks each.
- **Section-D** has 02 Long Answer type questions(31-32)carrying 04 marks each.
- **Section-E** has 03 Very Long Answer type questions(33-35) carrying 05 marks each.
- All programming questions are to be answered using Python Programming Language only

Q	SECTION-A	Marks
1.	State True or False: “The identifiers total, Total, and TOTAL refer to the same variable in Python.”	1
2.	Which of the following devices is not used to enter data into a computer? a) Touchpad b) Webcam c) Plotter d) Barcode Reader	1
3.	Which of the following is a valid variable name? a) if b) pass c) roll no d) age	1
4.	Which logic gate outputs 1 only when both inputs are different? a) AND b) OR c) XOR d) NAND	1
5	What will be the output of the following expression? 0 or 1 and 0 a) 0 b) 1 c) True d) False	1

	c) {'100':0,'200':0,'300':0,'400':0} d) None of these	
13	<p>What will be the output of the following code?</p> <pre>d = {1: 20, 2: 15, 3: 10, 4: 5} s = 0 for k in d: s += k * d[k] if k == 2: break print(s)</pre> <p>a) 50 b) 70 c) 40 d) 20</p>	1
14	<p>Which type of malware is designed to display unwanted advertisements and pop-ups on a user's system?</p> <p>a) Virus b) Trojan c) Adware d) Ransomware</p>	1
15	<p>Which of the following is an example of a passive digital footprint?</p> <p>a) Posting a photo on Instagram b) Writing a blog article c) Visiting a website that tracks user activity d) Sending an email</p>	1
16	<p>Rohit receives an email from a fake bank website asking him to urgently update his ATM PIN and OTP to avoid account suspension. Which type of cyber threat is this?</p> <p>a) Malware attack b) Phishing c) Cyberstalking d) Data encryption</p>	1
<p>Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as</p> <p>i. Both A and R are true and R is the correct explanation for A ii. Both A and R are true and R is not the correct explanation for A iii. A is True but R is False iv. A is false but R is True</p>		
17	<p>Assertion (A): List traversal in Python is done through a for loop. Reason (R): In a list, traversal is only through forward indexing.</p>	1
18	<p>Assertion (A): A dictionary in Python does not allow duplicate keys. Reason (R): Each key in a dictionary is mapped to a unique value, and duplicate keys overwrite the existing value.</p>	1
SECTION-B		
19	<p>Consider the following memory unit expressions:</p> <p>a) 2^{15} KB \times 2^{25} MB b) 2^{20} KB \times 2^{20} MB c) 2^{10} MB \times 2^{30} KB</p> <p>Answer the following:</p> <p>(i) Identify the options having equal storage value. (ii) Identify the option representing the maximum storage value.</p>	2
20	<p>Write the output of the following code</p> <pre>stationary = {"Pen": 10, "Pencil": 20, "Eraser": 5} stationary.pop("Pencil") stationary["Marker"] = 12 print(stationary)</pre>	2
21	<p>Rewrite the following code in Python after removing all syntax error(s).</p> <pre>30 = To for K in range(0, To)</pre>	2

	<pre> If K%4 == 0: print(K*4) else: Print(K + 3) </pre>	
22	<p>Observe the following Python code and find the possible output from the possible output(s) from options (a) to (d). Also, write the minimum value that can be possibly assigned to variable x and maximum value that can be possibly assigned to variable y.</p> <pre> import random colors = ("Red", "Green", "Blue", "Yellow") x = random.randint(0, 2) y = random.randint(1, 3) for i in range(x, y + 1): print(colors[i], end="#") </pre> <p>a. Green#Blue# b. Red#Green#Blue# c. Blue#Yellow#Red d. Yellow#Red#</p>	2
23	<p>A student has written the following Python code to calculate the factorial of a number, but the code contains some errors.</p> <p>Rewrite the corrected code after removing all errors.</p> <pre> n = input("Enter number") f = 0 for i in range(n): f = f * i print("Factorial =", f) </pre>	2
24	<p>During an online gaming session, a student secretly intercepts another player's private messages and later posts offensive comments repeatedly to harass them.</p> <p>a) Name any two cyber crimes depicted in this scenario. b) Explain how each action fits the identified cyber crime.</p>	2
25	<p>Differentiate between Active Digital Footprint and Passive Digital Footprint.</p> <p style="text-align: center;">OR</p> <p>Write any two ways to make computer education more inclusive for students with disabilities and of all genders</p>	2
SECTION -C		
26	<p>State the laws of Boolean Logic :</p> <p>i) De-Morgan's First Law. ii) De-Morgan's Second Law. And prove it using truth table</p>	3
27	<p>Given a tuple T=(10,20,30,20,30,100,200) Write a program that inserts all the elements of tuple T inside a list L without duplicity as shown: L will be [10,20,30,100,200]</p>	3
28	<p>Read the following statements carefully:</p> <p>(i) Ravi copies an article from the internet and submits it as his own in a school competition without crediting the original author. (ii) Meena downloads a copyrighted image and uses it in her school project without taking permission from the owner, even though she gives credit to the original source.</p> <p>Answer the following questions: (a) Identify the type of IPR violation in each of the above cases. (b) Explain why each act is considered a violation under IPR rules.</p>	1+2=3

29	<p>What will be the output of the following Python code?</p> <pre>S = 'IPL 2026!' for i in range(len(S)): if i % 2 == 0: print(S[i], end='') elif S[i].isdigit(): print('*', end='&') elif S[i] >= "L" and S[i] <= '0': print(S[i:], end='@') else: print('\$')</pre>	3
30	<p>A company wants to calculate the gross salary of its employees. The salary is calculated as: Gross Salary = Basic Salary + HRA + DA Where: HRA = 10% of Basic Salary if Basic Salary ≤ 20,000, else 15% DA = 12% of Basic Salary Draw a flowchart to calculate the gross salary of an employee after taking the basic salary as input.</p>	
SECTION -D		
31	<p>S = "Success comes to those who work hard" Write the output of the following Python statements: a) print(S[8:]) b) print(S[:7]) c) print(S.isupper()) d) print(S.split())</p>	4
32	<p>Write a program to accept n number of elements and add them into a list. Find the maximum and minimum values and print them.</p> <p style="text-align: center;">OR</p> <p>Write a program to display the Fibonacci series up to 10 elements.</p>	4
SECTION – E		
33	<p>(a) Convert the following number:</p> <p>i. $(2A)_{16} \rightarrow ()_{10}$ ii. $(BD.625)_{16} \rightarrow ()_8$</p> <p>(b) Write the full form of the following memory units and arrange them in ascending order: KB, MB, GB, TB</p> <p>(c) Differentiate between System Software and Application Software (any two points).</p>	
34	<p>Write a Python program to create a dictionary named employee with the following key–value pairs:</p> <ul style="list-style-type: none"> ● id : 101 	

	<ul style="list-style-type: none"> ● name : "Amit" ● salary : 35000 <p>Then perform the following operations:</p> <ol style="list-style-type: none"> a) Display the value of the name key. b) Increase the value of salary by 5000. c) Add a new key–value pair: department : "IT". d) Delete the id key from the dictionary. e) Display the updated dictionary. <p>Or</p> <p>Given the following list: values = [10, 20, 30, 40, 50] Write Python statements to:</p> <ol style="list-style-type: none"> a) Append the number 60 at the end of the list. b) Insert the number 5 at the beginning of the list. c) Remove the first occurrence of the number 30 from the list. d) Sort the list in ascending order. e) Print the first element of the list. 	
35	<p>Rahul received a pop-up message on his computer saying: “Your system is infected! Click here to clean it immediately.”</p> <p>He clicked the link, and soon after, his files started disappearing, his computer slowed down drastically, and some programs stopped working properly. A technician later informed him that multiple malware types were affecting his system.</p> <p>Questions:</p> <ol style="list-style-type: none"> a) Identify the type of malware Rahul most likely installed by clicking the link. b) Explain the possible impact of the following malware types in this scenario: <ol style="list-style-type: none"> i. Ransomware ii. Spyware iii. Worm c) Suggest two preventive measures Rahul can follow to protect his computer from such malware attack 	1+3+ 1=5