INDIAN SCHOOL MUSCAT

SET B

ANNUAL EXAMINATION

FEBRUARY 2020

CLASS XI

Marking Scheme – INFORMATICS PRACTICES [THEORY]

1. (a)	American Standard Code For Information Interchange	1
(b)	Trouble shoot No Sound / Speaker Problem • Check if the sound card driver is installed and working properly. • Check the volume control on your computer. • Make sure the speakers are turned on, if using external speakers. • Make sure the external speakers are connected to the correct audio port or a USB port. • Connect headphones to the correct audio port and check if sound is audible from the headphones. Any two – 1 mark for each	2
(c)	Reasons to prove that computers are better than calculators. • They are programmable and support sharing of data/information. • They can collaborate within computer with other programs and share options. • They can even share information with other computers if they connect with them forming a network. • They can support multiple users and programs simultaneously. • Software support for the computer hardware is enormous and software provides integrated support. • All this is possible because of enormous processing power of computers. Any four – ½ mark for each	2
2. (a)	print(Name,'is',end=' ') 1 mark	1
(b)	keyword – predefined words with special meaning identifier – user defined words ½ mark for each	1
(c)	Flowchart Accept age ½ mark Check if age >=18 ½ mark Display eligible to vote or not 1 mark	2
(d)	import random print(random.randrange(10,50)) 1 mark for each line	2
(e)	output: 4 8 6 9 ½ mark for each value	2
(f)	(i) '''This is interesting''' = 19 (ii) "Keshav\\" = 7 (iii) 'Door#23' = 7 (iv) "It is quite\ cold" = 15	2

3. (a)	Mutable data type - values can be changed in place. Memory address remains the same. ½ mark Mutable types – lists, dictionaries and sets – any one ½ mark	1
(b)	a=True, b=False and c=True. (i) b and c or not a = F and T or not T = F and T or F = F or F = False (ii) not a and not c = not T and not T = F and F = False 1 mark for each subdivision	2
(c)	Corrected code fragment that saves on the number of comparisons : if a==0 : print("Zero") elif a==1 : print("One") elif a==2 : print("Two") elif a==3 : print("Three")	2
(d)	(i) $a^{-n} = \frac{1}{a^n}$ = a**(-n) = 1 / (a**n) 1 mark (ii) $d = \sqrt{a^2 + b^2}$ = d = math.sqrt(a**2+b**2) 1 mark	2

(e)	Python Program to check if a given integer is a Prime number or not.
	N=int(input("Enter an integer")) ½ mark
	ct=0 ½ mark
	for I in range(1,N+1):
	if N%I==0: 1 mark
	ct+=1
	if ct==2:
	print(N,"is a Prime number")
	else: 1 mark
	print(N,"is not a Prime number")
		3

4. (a)	"Class 5", "Class 11" ½ mark for each value	1
(b)	Ans : (b) ghi 1 mark Ans : (d) 3 1 mark	2
(c)	Python Program to find the largest number in a list given by the user. lst=eval(input("Enter a list of numbers")) ½ mark length=len(lst) ½ mark large=lst[0] ½ mark for i in range(1,length): ½ mark if lst[i]>large: ½ mark large=lst[i] print("The largest number in the list is", large) ½ mark	3
(d)	Given a list P = [13, 2.7, 18, 7.1, 5, 36.4, 62, 18] (i) Which list slice will return [7.1, 5, 36.4] ? = P[3:6] (ii) What is the output of P.index(2.7) ? = 1 (iii) Write Python code to add 78 as second element to the list P. = P.insert(1,78) (iv) Write Python code to delete 7.1 from the list P. = P.remove(7.1)	4
5. (a)	import numpy as np P=np.arange(21,33).reshape(3,4) ½ mark for each line	1

<table>
<tr><td>(b)</td><td>
<table>
<tr><th>List</th><th>NumPy Array</th></tr>
<tr><td>List can have elements of different data types for example, [1,3.4, ‘hello’, ‘a@’</td><td>All elements of an array are of same data type for example, an array of floats may be: [1.2, 5.4, 2.7]</td></tr>
<tr><td>Elements of a list are not stored contiguously in memory.</td><td>Array elements are stored in contiguous memory locations. This makes operations on arrays faster than lists.</td></tr>
<tr><td>Lists do not support element wise operations, for example, addition, multiplication, etc. because elements may not be of same type.</td><td>Arrays support element wise operations. For example,
if A1 is an array, it is possible to say A1/3 to divide each element of the array by 3.</td></tr>
<tr><td>Lists can contain objects of different datatype that Python must store the type information for every element along with its element value. Thus lists take more space in memory and are less efficient.</td><td>NumPy array takes up less space in memory as compared to a list because arrays do not require to store datatype of each element separately.</td></tr>
<tr><td>List is a part of core Python.</td><td>Array (ndarray) is a part of NumPy library.</td></tr>
</table>
Any two differences – ½ mark for each
</td><td>1</td></tr>
<tr><td>(c)</td><td>Output :
<pre>[51]
[[26 54 55]
 [28 41 57]]</pre>
1 mark for each value</td><td>2</td></tr>
<tr><td>(d)</td><td>A,B,C = np.hsplit(H,[2,4])
A,B,C = np.hsplit(H,3)
A,B,C = np.split(H,[2,4],axis=1)
A,B,C = np.split(H,3,axis=1)
Any two ways – 1 mark for each</td><td>2</td></tr>
<tr><td>(e)</td><td>import numpy as np ½ mark
X=np.array([[23,4],[17,8]])
Y=np.array([[31,22],[45,46]]) ½ mark
Z=X+Y
print(Z) ½ mark
print(np.min(Y)) ½ mark</td><td>2</td></tr>
<tr><td>(f)</td><td>import numpy as np
K=np.array([[34,56,12],[11,90,87]])
D=np.extract(K<82, K)
print(D)
½ mark for each line</td><td>2</td></tr>
<tr><td>6.
(a)</td><td>
char or varchar</td><td>1</td></tr>
<tr><td>(b)</td><td>All attributes that can uniquely identify rows of a table are candidate keys of a table. 1 mark
Example 1 mark</td><td>2</td></tr>
<tr><td>(c)</td><td>(i) SELECT NAME FROM SPORTS WHERE GAME=’Tennis’;</td><td>1</td></tr>
<tr><td></td><td>(ii) UPDATE SPORTS SET GRADE=’B’ WHERE S_ID=124;</td><td>1</td></tr>
<tr><td></td><td>(iii) SELECT NAME FROM SPORTS WHERE CLASS BETWEEN 6 AND 8;</td><td>1</td></tr>
</table>

	(iv) SELECT NAME, CLASS, GAME FROM SPORTS ORDER BY CLASS DESC;	1
	(v) SELECT NAME FROM SPORTS WHERE NAME LIKE 'S%';	1
	(vi) SELECT S_ID FROM SPORTS WHERE GRADE ='B' OR GRADE='C';	1
	(vii) ALTER TABLE SPORTS DROP CLASS;	1
	(viii) DELETE FROM SPORTS WHERE GAME='Swimming';	1
(d)	i. Archana ii. 282 iii. 4 iv. 155 1 mark for each subdivision	4
7. (a)	Incognito browsing, proxy, Virtual Private Networks (VPN) Any two – ½ + ½	1
(b)	Spamming ▪ It refers to the sending of bulk-mail by an identified or unidentified source. ▪ In non-malicious form, bulk advertising mail is sent to many accounts. ▪ In malicious form, the attacker keeps on sending bulk mail until the mail-server runs out of disk space.	1
(c)	Measures one should take to maintain confidentiality of personal information. • Use firewall wherever possible • Control browser settings to block tracking • Browse privately wherever possible • Be careful while posting on internet • Ensure safe sites while entering crucial information • Carefully handle emails • Do not give sensitive information on wireless networks • Avoid using public computers Any two – 1 mark for each	2
(d)	(i) **Digital footprints** Digital footprints are the records and traces individuals leave behind as they use the internet. Your interactions on social media, your friend circle on social media sites, sites you visit, online purchases, locations visited through Facebook check-ins etc. all make up your digital footprints. 1 mark (ii) **Firewall** A Firewall is a network security system, either hardware or software-based, that controls incoming and outgoing network traffic based on a set of rules (or) It is a system designed to prevent unauthorized access to or from a private network. 1 mark	2
(e)	Preventive measures for Phishing and Pharming attack on a Computer System. • Don't open emails from unknown sources • Check the security guidelines of websites such as PayPal. • Type the general link instead of clicking on the link. • When in doubt, do not click. Any two – 1 mark for each	2
(f)	(i) Kavitha has become a victim of cyber bullying and cyber stalking. (ii) She must immediately bring it into the notice of her parents. And she must report this cyber crime to local police with the help of her parents. 1 mark for each subdivision	2