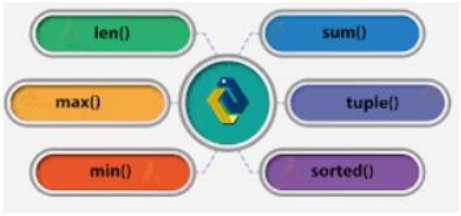
Built –in Functions




```
#  built in    min()   max()   sum()
t6=(2,4,6,7,2,4,11,2)
print("max :",max(t6))
print("min :",min(t6))
print("sum :",sum(t6))
print("avg :",sum(t6)/len(t6))
```

```
max : 11
min : 2
sum : 38
avg : 4.75
```

```
t7=("delhi","mumbai","goa","ambala","Ambala") #A  65   a 97
print("min" ,min(t7))
print("max",max(t7))
```

```
min Ambala
max mumbai
```

```
# index()
t7.index("goa")
```

```
2
```

Built –in Functions


```
t6=(2,4,6,7,2,4,11,2)
print(sorted(t6))
print(t6)
```

```
[11, 7, 6, 4, 4, 2, 2, 2]
(2, 4, 6, 7, 2, 4, 11, 2)
```

```
t6=sorted(t6)
print(t6)
```

```
[2, 2, 2, 4, 4, 6, 7, 11]
```

```
t6=(2,4,6,7,2,4,11,2)
print(sorted(t6,reverse=True))
print(t6)
```

```
[11, 7, 6, 4, 4, 2, 2, 2]
(2, 4, 6, 7, 2, 4, 11, 2)
```

Sorted() gives a sorted list as the result
By default sorted is ascending
For descending reverse=True has to be mentioned

Tuple Assignment

It is a key feature of Tuple.
Mostly used for swapping values, returning multiple values by a function

```
#tuple assignment
st=(101,"Dharan",[56,78,95,77,88])
print(st ," has ",len(st)," elements")
```

```
(101, 'Dharan', [56, 78, 95, 77, 88])  has  3  elements
```

```
roll,name,marks=st    #tuple assignment
print(roll,name,marks,sep="    --     ")
```

```
101    --     Dharan    --     [56, 78, 95, 77, 88]
```

Traversing

By using a loop – while or for

```
cities=("delhi","mumbai","goa","ambala","pune")
for i in cities:   # i is an element of tuple
    print(i,end=" ")
```

```
delhi mumbai goa ambala pune
```

```
i=0
while i<len(cities):  # i is used as index
    print(cities[i],end=" ")
    i+=1
```

```
delhi mumbai goa ambala pune
```

WORKSHEETS

Tuple – Worksheet L1 1. A tuple is declared as T = (12,5,6,9,8) What will be the value of sum(T)?

2. Which of the following is a Python tuple?

[1, 2, 3]

(1, 2, 3)

{1, 2, 3}

{}

3. Suppose t = (1, 2, 4, 3), which of the following is incorrect?

```
print(t[3])
```

```
t[3] = 45
```

```
print(max(t))
```

```
print(len(t))
```

4. State the output t=(1,2,3,4,5) print(t[1:4])

5. What is the data type of (1)?

COMPETENCY BASED

Q41. Write a program to print the frequency of a number accepted from the user in given tuple : T1 = (12, 17, 18, 25, 19, 12, 18, 5)

1. Write a program to input your friends name and their phone numbers, and store them as key value pair in Dictionary

Perform the following operations

a) Display name and phone number of all your friends
b) Search for a friends name in your list , if found display their phone number
c) Delete a particular friend
d) Modify the phone number of an existing friend
e) Display the dictionaries in sorted order of friends

2. Write a program to create a dictionary from a String which tracks down no of items a character is present in the string

3.Write a program to read email IDs of n number of students and store them in a tuple. Create two new tuples, one to store only the usernames from the email ids and second to store the domain names from the email ids. Print all three tuples at the end of the program.[Hint : you may use the function split()]

4. Write a program to print the frequency of a number accepted from the user in the given tuple.

5. Create a dictionary which contains dice combinations as(tuple) keys and the prizes awarded as values.
Write a program to take lot or ask user to enter the dice combination, check in the dictionary and print appropriate message

DICTIONARIES

CONTENT – REVIEW

Dictionary

- Unordered collection of items / elements. Each item has two parts - key : value
- A mapping between key and it's value, separated by colon (:)

- Items are enclosed in {} and separated by comma.
- Are optimized to retrieve data using key. So key (values) should be unique.
- They can be integer, float, string or tuple.
- D[key] can be used for accessing element, also to add element in an existing dictionary

Creation- Using

- built - in function dict()
- assignment operator creates deep copy
- copy() creates shallow copy
- {} to create blank dictionary

Shallow and Deep Copy

```
d4=d3.copy()   #shallow copy  changes done in d3 does not reflect in d4
print(d4)
```

```
{1: 'Anamika', 2: 'Sooraj'}
```

```
d3[3]="Shyam"
print(d3)
print(d4)
```

```
{1: 'Anamika', 2: 'Sooraj', 3: 'Shyam'}
{1: 'Anamika', 2: 'Sooraj'}
```

```
d5=d3  #deep copy...changes done later in d3 reflects d5
d3[4]="Viji"
print(d3)
print(d5)
```

```
{1: 'Anamika', 2: 'Sooraj', 3: 'Shyam', 4: 'Viji'}
{1: 'Anamika', 2: 'Sooraj', 3: 'Shyam', 4: 'Viji'}
```

Accessing Items

```
#mapping data type...unordered collection of items
#item key:value
#key-   immutable(int float complex bool string tuple ) , unique
#value- anything..nested, repeated

prize={"first":"books","second":"pencil box","third":100,True:"Participated",False:"Din take part"}
#
print(type(prize.keys()),": ",prize.keys())
mykeys=list(prize.keys())
print(type(mykeys),":",mykeys)

print(type(prize.values()),": ",prize.values())
myval=list(prize.values())
print(type(myval),":",myval)
```

```
<class 'dict_keys'> :  dict_keys(['first', 'second', 'third', True, False])
<class 'list'> : ['first', 'second', 'third', True, False]
<class 'dict_values'> :  dict_values(['books', 'pencil box', 100, 'Participated', 'Din take part'])
<class 'list'> : ['books', 'pencil box', 100, 'Participated', 'Din take part']
```

Accessing Items…

```
print(type(prize.items()),": ",prize.items())
myitem=list(prize.items())
print(type(myitem),":",myitem)   #list of tuples(key,value)
```

```
<class 'dict_items'> :  dict_items([('first', 'books'), ('second', 'pencil box'), ('third', 100), (Tr
ue, 'Participated'), (False, 'Din take part')])
<class 'list'> : [('first', 'books'), ('second', 'pencil box'), ('third', 100), (True, 'Participate
d'), (False, 'Din take part')]
```

```
#access the value through key
print(prize["first"])  #use []
```

```
books
```

```
print(prize.get("first"))  #get()
```

```
books
```

Adding an item

```
#add an item in a dict
prize["last"]="pen"   #dict[key]=value
prize
```

```
{'first': 'books',
 'second': 'pencil box',
 'third': 100,
 True: 'Participated',
 False: 'Din take part',
 'last': 'pen'}
```

Updating an Item

```
d1={"fourth":500}
prize.update(d1)   #use existing dict in update
prize.update({"fifth":300})   #take an instance of dict in update
prize
```

```
{'first': 'books',
 'second': 'pencil box',
 'third': 100,
 True: 'Participated',
 False: 'Din take part',
 'last': 'pen',
 'fourth': 500,
 'fifth': 300}
```

```
#modify the value   new keys-new item will added, existing key..vale wil be updated
prize["first"]="DVD"   #change the value of first as DVD   dict[key]=value...key should be
prize.update({"second":"geometry box"})
prize
```

```
{'first': 'DVD',
 'second': 'geometry box',
 'third': 100,
 True: 'Participated',
 False: 'Din take part',
 'last': 'pen',
 'fourth': 500,
 'fifth': 300}
```

Traversing

```
#traversing  - for loop with key
print("POSITION\t:\tPRIZE")
for key in prize:
    print(key,"\t\t\t",prize[key])
```

```
POSITION        :       PRIZE
first                    DVD
second                   geometry box
third                    100
True                     Participated
False                    Din take part
last                     pen
fourth                   500
fifth                    300
```

```
#traversing  - for loop with key,value pairs
print("POSITION\t:\tPRIZE")
for key,value in prize.items():
    print(key,"\t\t\t",value)
```

```
POSITION        :       PRIZE
first                    DVD
second                   geometry box
third                    100
True                     Participated
False                    Din take part
last                     pen
fourth                   500
fifth                    300
```

Built – in Functions

Function/Method	Purpose	Example
len()	This function returns the number of elements i.e. the key-value pairs present in the dictionary.	>>>d={1: 'Amrit', 2: 'Bhavesh', 3: 'Chetan', 4: 'Falguni', } >>> len(d) 6
d.items()	This function returns the list of elements in the dictionary.	>>> d.items() dict_items([(1, 'Amrit'), (2, 'Bhavesh'), (3, 'Chetan'), (4, 'Falguni')])
d.keys()	This function returns the all the keys that are present in the dictionary.	>>> d.keys() dict_keys([1, 2, 3, 4])
d.values()	This returns all the values in the dictionary.	>>> d.values() dict_values(['Amrit', 'Bhavesh', 'Chetan', 'Falguni'])

Function/Method	Purpose	Example

d.get(key)	This function returns the value corresponding to a key in the dictionary. If the key is not present, the function returns, 'None'.	>>> d.get(2)
		'Bhavesh'
		
		>>> d.get(8, -1)
		-1

d.update(object)	This function merges the object enclosed in brackets with d.	>>> d2={5: 'Kartikay', 6: 'Prerna'}
		>>> d.update(d2)
		>>> d
		{1: 'Amrit', 2: 'Bhavesh', 3: 'Chetan', 4: 'Falguni', 5: 'Kartikay', 6: 'Prerna'}

d.clear()	This function clears the entire dictionary. It deletes all the key-value pairs.	>>>d2={1:"Deer", 2:"Bear", 3:"Cat", 4:"Elephant"} >>>d2 {1:"Deer", 2:"Bear", 3:"Cat", 4:"Elephant"} >>>d2.clear() >>>d2 {}

Built – in Functions

Function/Method	Purpose	Example

d.pop(key)	This function removes a key along with its value in a dictionary.	>>> d2={1:"Apple", 2:"Ball", 3:"Pineapple",4:"Mangoes"}
		
		>>> d2.pop(2)
		'Ball'
		>>> d2
		{1: 'Apple', 3: 'Pineapple', 4: 'Mangoes'}

A Sample code to find frequency of vowel letters

```
#dictionary based...
phrase=list("Everything will be fine,All the best")
phrase
#dict ..track of vowel letters count
#vowel={'a':4,'i':5}
vowel={}
a=phrase.count('a')
a=a+phrase.count('A')
vowel['a']=a
i=phrase.count('i')
i=i+phrase.count('I')
vowel['i']=i
e=phrase.count('e')
e=e+phrase.count('E')
vowel['e']=e
o=phrase.count('o')
o=o+phrase.count('O')
vowel['o']=o
u=phrase.count('u')
u=u+phrase.count('U')
vowel['u']=u
print(vowel)
```

```
{'a': 1, 'i': 3, 'e': 6, 'o': 0, 'u': 0}
```

A Sample code to draw lot

```
#lottery system
import random
lot={(3,2,2):"First",(1,4,3):"Second",(6,1,6):"Third",(3,1,5):"Fourth"}
prize={"First":"books","Second":"pencil box","Third":100,"Fourth":"chocolate"}
for i in range(10):
    a=random.randint(1,6)
    b=random.randint(1,6)
    c=random.randint(1,6)
    dice=a,b,c
    if dice in lot:
        n=lot[dice]#1st-4th
        print("Congrats, you won ",prize[n])
```

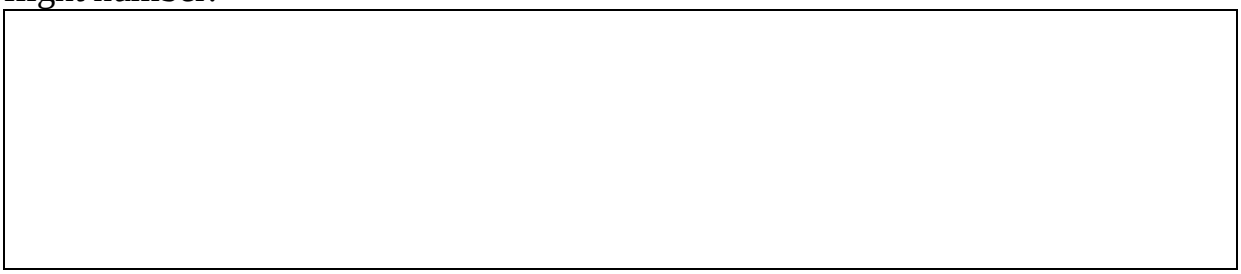
```
Congrats, you won  books
Congrats, you won  pencil box
```

WORKSHEETS

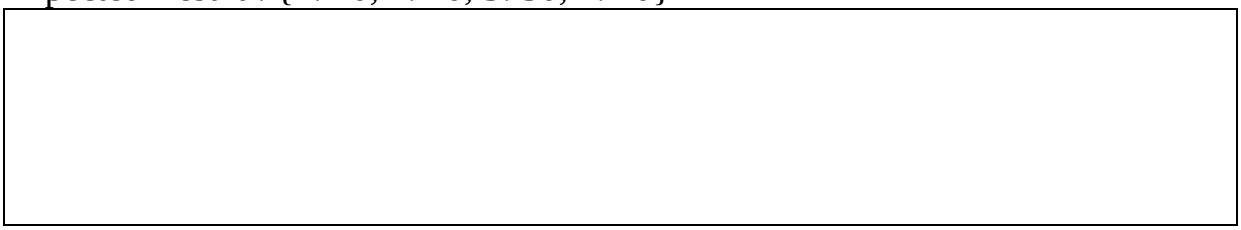
I. Write Python statements to:

1. Create a dictionary which contains the name of airlines corresponding to the

flight number.



b. Concatenate following dictionaries to create a new one
dic1={1:10, 2:20}
dic2={3:30, 4:40}
Expected Result : {1: 10, 2: 20, 3: 30, 4: 40}



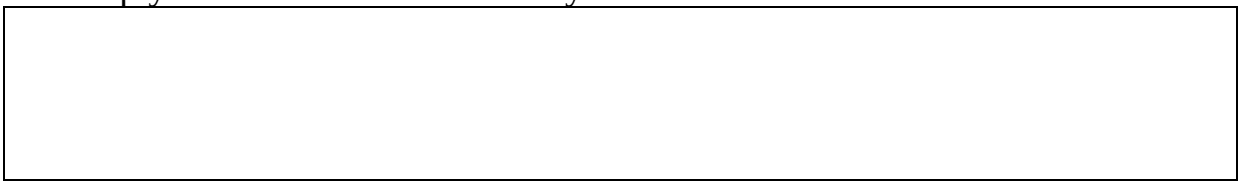
3 Add a key to a dictionary.

4 sum all the items in a dictionary

5 Sort (ascending and descending) a dictionary by value.

6 check if a given key already exists in a dictionary

7. multiply all the items in a dictionary



8. get the maximum and minimum value in a dictionary

9 print all unique values in a dictionary

10. check a dictionary is empty or not

11. print a dictionary in table format

II . What will be the output of the following code?

1.

```
dictionary = {"Roll":9 , "Class":8, "Section":'A', "Marks":90}
print("Roll" in dictionary)
```

2.

```
b. a = {}
a[1] = 6
a['1'] = 2
a[1]= a[1]+1
count = 0
for i in a:
   count += a[i]
print(count)
```

CYBER SAFETY / SECURITY /
SOCIETY LAW AND ETHICS

CONTENT – REVIEW

Society, Law and Ethics

Digital footprint

- A digital footprint is an impact you create on the Web through your online activity, which incorporates browsing, interactions with others, and publication of content.
- In other words, it can be considered as the data trail – intentional and unintentional - you leave behind while you surf the Web or Internet.
- Digital footprint or digital shadow refers to the trail of data left behind through the utilization of the Web or on digital devices.
- The digital footprint of any person can have a positive as well as a negative impact on him.

Find some of the examples of digital footprints:

- Visiting Websites And Online Shopping
- Online Searching
- Posting on Social Media, blogs, etc.
- Online Image and Video Upload
- Communicating Online (Ex:- Chat, Email, etc.)
- Any activity you perform Online etc.

Digital Society and and Netizen

- Anyone who uses digital technology along with Internet is a digital citizen or a netizen. Being a good netizen means practicing safe, ethical and legal use of digital technology. A responsible netizen must abide by net etiquettes, communication etiquettes and social media etiquettes.

  → **Net Etiquettes:**
    - Be Ethical
    - Be Respectful
    - Be Responsible

  → **Communication Etiquettes :**
    - Be Precise

- Be Polite
- Be Credible

→ **Social Media Etiquettes:**

- Be Secure
- Be Reliable

Data Protection:

Elements of data that can cause substantial harm, embarrassment, inconvenience and unfairness to an individual, if breached or compromised, is called sensitive data. Examples of sensitive data include biometric information, health information, financial information, or other personal documents, images or audios or videos. All over the world, each country has its own data protection policies (laws). These policies are legal documents that provide guidelines to the user on processing, storage and transmission of sensitive information.

Intellectual Property Rights(IPR)

Intellectuals Property refers to the inventions, literary and artistic expressions, designs and symbols, names and logos. The ownership of such concepts lies with the creator, or the holder of the intellectual property. This enables the creator or copyright owner to earn recognition or financial benefit by using their creation or invention. Intellectual Property is legally protected through copyrights, patents, trademarks,etc.

Copyright:

Copyright grants legal rights to creators for their original works like writing, photograph, audio recordings, video, sculptures, architectural works, computer software, and other creative works like literary and artistic work. Copyright law gives the copyright holder a set of rights that they alone can avail legally. It prevents others from copying, using or selling the work.

Patent:

A patent is usually granted for inventions. Unlike copyright, the inventor needs to apply (file) for patenting the invention. When a patent is granted, the owner gets an exclusive right to prevent others from using, selling, or distributing the protected invention.

Trademark:

Trademark includes any visual symbol, word, name, design, slogan, label, etc., that distinguishes the brand or commercial enterprise, from other brands or commercial enterprises. For example, no company other than Nike can use the Nike brand to sell shoes or clothes.

Violation of IPR

Violation of intellectual property right may happen in one of the following ways:

Plagiarism:

Presenting someone else's idea or work as one's own idea or work is called plagiarism. If we copy some contents from Internet, but do not mention the source or the original creator, then it is considered as an act of plagiarism.

Copyright Infringement:

Copyright infringement is when we use other person's work without obtaining their permission to use or we have not paid for it, if it is being sold. Suppose we download an image from the Internet and use it in our project. But if the owner of the copyright of the image does not permit its free usage, then using such an image even after giving reference of the image in our project is a violation of copyright.

Trademark Infringement:

Trademark Infringement means unauthorised use of other's trademark on products and services. An owner of a trademark may commence legal proceedings against someone who infringes its registered trademark.

General Public License(GPL):

GPL is primarily designed for providing public licence to a software. GNU GPL is another free software license, which provides end users the freedom to run, study, share and modify the software, besides getting regular updates.

Creative Commons(CC):

CC is used for all kind of creative works like websites, music, film, literature, etc. CC enables the free distribution of an otherwise copyrighted work. It is used when an author wants to give people the right to share, use and build upon a work that they have created.

Apache:

The Apache License is a permissive free software license written by the Apache Software Foundation (ASF). It allows users to use the software for any purpose, to distribute it, to modify it, and to distribute modified versions of the software under the terms of the license, without concern for royalties.

Cyber crime:

Cybercrime is a crime that involves a computer and a network. The computer may have been used to commit the crime and in many cases, it is also the target. Cybercrime may threaten a person or a nation's security and financial health..

Hacking:

An effort to attack a computer system or a private network inside a computer is known as hacking. Simply, it is unauthorized access to or control of computer network security systems with the intention of committing a crime. Hacking is the process of finding some security holes in a computer system or network in order to gain access to personal or corporate information. One example of computer hacking is the use of a password cracking technique to gain access to a computer system. The process of gaining illegal access to a computer system, or a group of computer systems, is known as hacking. This is accomplished by cracking the passwords and codes that grant access to systems. Cracking

is the term used to describe the process of obtaining a password or code. The hacker is the individual who performs the hacking. Following are some of the things that can be hacked:

- Single systems
- Email account
- A group of systems
- LAN network
- A website
- Social media sites, etc

Eavesdropping;

It is the act of secretly listening to a private conversation of others without their consent. The main purpose of eavesdropping is to steal data.

Phishing:

- It is the way in which an authentic looking webpage or website is created to get sensitive information of users which may include their name, password, phone number, email address and bank details.
- So you must look at address bar of web browser to verify the name of website where you are providing your information .

Ransomware:

- Ransom ware is a malware that hold data of persons at ransom. This data is encrypted and the user is unable to access his personal files or organizational files. The user has to pay a ransom price in order to get back his files and data.
- Ransomware attacks can be detected using security parameters like software that can detect malicious files in the system. Most of these ransomwares are hidden files they

get into the system when certain programs or software's are being downloaded from the internet which are unsafe to the users.

- Ransomwarecan be removed by using strong cyber security software system. However, certain files cannot be recovered after removing ransomwares , as these files are removed along with the ransomware.

- Ransomware Attacks pose a big threat to sensitive information of a particular person ororganisation. As this information is at times sold at a very high price. It poses to be a major cybercrime and can lead to severe punishment.

Preventing Cyber Crime

Following points can be considered as safety measures to reduce the risk of cyber crime:

- ✓ Take regular backup of important data.
- ✓ Use an antivirus software and keep it updated always.
- ✓ Avoid installing pirated software. Always download software from known and secure (HTTPS) sites.
- ✓ Always update the system software which include the Internet browser and other application software.
- ✓ Do not visit or download anything from untrusted websites.
- ✓ Usually the browser alerts users about doubtful websites whose security certificate could not be verified; avoid visiting such sites.
- ✓ Use strong password for web login, and change it periodically. Do not use same password for all the websites. Use different combinations of alphanumeric characters including special characters. Ignore common words or names in password.
- ✓ While using someone else's computer, don't allow browser to save password or auto fill data, and try to browse in your private browser window.

- ✓ For an unknown site, do not agree to use cookies when asked for, through a Yes/No option.
- ✓ Perform online transaction like shopping, ticketing, and other such services only through well-known and secure sites.
- ✓ Always secure wireless network at home with strong password and regularly change it.

Cyber Safety:

The world is becoming more digital with each passing day. Along with development, comes the threat of cyber attacks. Through this blog, you will understand what is cyber safety and the various aspects of cyber safety. You will also understand how cyber safety and security are important.

Cyber Safety Important:

One of the prime reasons for implementing Cyber Safety is the protection of confidential data. Cyber Safety can protect these data to a great extent. These data protection go a long way, especially in cases of government-related data. Breach of such data of national importance can cause serious disturbance to the nation.

Additionally, a breach of personal data would result in personal losses such as reputation damage, etc. There are high chances of an extortion threat. By giving in to the threat, there are chances of financial damages.

Data privacy is important in this digital world. For example, breach of personally identifiable information (PII), intellectual property, and protected health information (PHI) would make people lose faith in the service and the possibility of recovering lost customers or building faith again is a herculean task. This is usually applicable in the sectors of hospitals and other healthcare institutions, financial service programs, and power plants.

However, the most fearsome aspect of the data breach through any cyberattack is the mishandling of data.Through the following segment, you will understand the various **types of cyber attacks**. Based on the understanding of cyber-attacks and why cyber safety is important, you can implement cyber safety measures accordingly.

Types of Cyber Attacks

Malware:

Malware, or malicious software, is any program or file that is harmful to a computer user. Malware includes computer viruses, worms, Trojan horses and spyware. These malicious programs can perform a variety of functions, including stealing, encrypting or deleting sensitive data, altering or hijacking core computing functions and monitoring users' computer activity without their permission.

Programs officially supplied by companies can be considered malware if they secretly act against the interests of the computer user. For example, company ABC sold the rootkit, which contained a Trojan horse embedded into CDs that silently installed and concealed itself on purchasers' computers with the intention of preventing illicit copying. It also reported on users' listening habits, and unintentionally created vulnerabilities that were then exploited by unrelated malware.

One strategy for protecting against malware is to prevent the malware software from gaining access to the target computer. For this reason, antivirus software, firewalls and other

strategies are used to help protect against the introduction of malware, in addition to checking for the presence of malware and malicious activity and recovering from attacks.

Virus:

Computer virus is a type of malicious software, or malware, that spreads between computers and causes damage to data and software.

Computer viruses aim to disrupt systems, cause major operational issues, and result in data loss and leakage. A key thing to know about computer viruses is that they are designed to spread across programs and systems. Computer viruses typically attach to an executable host file, which results in their viral codes executing when a file is opened. The code then spreads from the document or software it is attached to via networks, drives, file-sharing programs, or infected email attachments.

Common Signs of Computer Viruses

A computer virus will more than likely have an adverse effect on the device it resides on and may be discoverable through common signs of performance loss, including:

Speed of System

A computer system running slower than usual is one of the most common signs that the device has a virus. This includes the system itself running slowly, as well as applications and internet speed suffering. If a computer does not have powerful applications or programs installed and is running slowly, then it may be a sign it is infected with a virus.

Pop-up Windows

Unwanted pop-up windows appearing on a computer or in a web browser are a telltale sign of a computer virus. Unwanted pop-ups are a sign of malware, viruses, or spyware affecting a device.

Programs Self-executing

If computer programs unexpectedly close by themselves, then it is highly likely that the software has been infected with some form of virus or malware. Another indicator of a virus is when applications fail to load when selected from the Start menu or their desktop icon.

Accounts Being Logged Out

Some viruses are designed to affect specific applications, which will either cause them to crash or force the user to automatically log out of the service.

Crashing of the Device

System crashes and the computer itself unexpectedly closing down are common indicators of a virus. Computer viruses cause computers to act in a variety of strange ways, which may include opening files by themselves, displaying unusual error messages, or clicking keys at random.

Mass Emails Being Sent from Your Email Account

Computer viruses are commonly spread via email. Hackers can use other people's email accounts to spread malware and carry out wider cyberattacks. Therefore, if an email account has sent emails in the outbox that a user did not send, then this could be a sign of a computer virus.

Changes to Your Homepage

Any unexpected changes to a computer—such as your system’s homepage being amended or any browser settings being updated—are signs that a computer virus may be present on the device.

Trojans:

In computing, a Trojan horse is a program that appears harmless, but is, in fact malicious. Unexpected changes to computer settings and unusual activity, even when the computer should be idle, are strong indications that a Trojan is residing on a computer A Trojan horse may also be referred to as a Trojan horse virus, but that is technically incorrect Unlike a computer virus, a Trojan horse is not able to replicate itself, nor can it propagate without an end user's assistance. This is why attackers must use social engineering tactics to trick the end user into executing the Trojan. Typically, the malware programming is hidden in an innocent-looking email attachment or free download. When the user clicks on the email attachment or downloads the free program, the malware that is hidden inside is transferred to the user's computing device. Once inside, the malicious code can execute whatever task the attacker designed it to carry out.

Indian Information Technology Act(IT Act)

The Government of India's Information Technology Act, 2000 (also known as IT Act), amended in 2008, provides guidelines to the user on the processing, storage and transmission of sensitive information. In many Indian states, there are cyber cells in police stations where one can report any cyber crime. The act provides legal framework for electronic governance by giving recognition to electronic records and digital signatures. The act outlines cyber crimes and penalties for them.

Safely Browsing the Web

- Install and use antivirus software.
- Use a Firewall.
- Use strong passwords.
- Update your security software.

- Be aware of clicking links in emails.
- Bookmark important sites.
- Use VPNs and Proxies.

WORKSHEETS

Level 1

1. What is cyber safety?
2. What is Cyber Stalking
3. What is identity theft?
4. What is Cyber Troll?
5. What is Cyber Bullying?
6. What is Malware?
7. What is adware?
8. What is Spyware?
9. What is Phishing?

Worksheet Level 2

1. Passwords are used to improve the _____ of a network.
a) Performance
b) Reliability
c) Security
d) Longevity

2. The full form of Malware is
a) Malfunctioned software
b) Multipurpose software
c) Malicious software
d) Malfunctioning of security

3. The transformation of key business processes through the use of digital or Internet technologies is known as _____
a) E-business
b) E-Commerce
c) Digital Business
d) Both A and C

4. A _____ community is one where the interaction takes place over a computer network, mainly the Internet.
a) Online
b) Virtual
c)Internet
d) All of the above

5. _____ has specific objectives to increase profits when increasing its benefits to society.
a) Digital Business
b) Social Network
c)Social Enterprise
d) Virtual Community

6. Social networks are organized primarily around _____.
a) Brands
b) People
c) Discussions
d) interests

7. Which social network is considered the most popular for social media marketing?
a) Twitter
b) Facebook
c) Linkdin
d) Whats App

8. Which of the following is an important aspect of creating blogs and posting content?
a) Using a witty user name
b) Posting at least once a month to the blog
c) Social Media Optimization
d) All of the above

9. Which of the following is the correct depiction of Digital Marketing?
a) E-mail Marketing
b) Social Media Marketing
c)Web Marketing
d) All of the above

10. Which of the following is not specifically required by the search engines?
a) Poor user experience
b) Keyword stuffing
c)Buying links
d) All of the above

COMPETENCY BASED

1. Smridh has recently changed his school so he is not aware of the people, but someone is posting negative ,demeaning comments on his social media profile. He is also getting repeated mails from unknown people. Everytime he goes online, he finds someone chasing him online.

i) Smridh is a victim of …… :

a) Eavesdropping

b) Stolen identity

c) Phishing

d) Cyber stalking

Ans: d

ii) The action that Smridh should take :

a) He should ONLY share with his friends

b) He should NOT share with anyone as it can cause serious problem

c) He should immediately report to the police

d) He should bring to the notice of his parents and school authorities.

Ans: d

iii) …….. is a set of moral principles that governs the behaviour of a group or individual and regulates the use of computers.

a) Copyright

b) Computer ethics

c) Property rights

d) Privacy law

Ans: b

2. After practicals, Atharv left the computer laboratory but forgot to sign off from his email account. Later, his classmate Revaan started using the same computer. He is now logged in as Atharv. He sends inflammatory email messages to few of his classmates using Atharv's email account.

i) Revaan's activity is an example of which of the following cyber crime?

a) Hacking

b) Identity theft

c) Cyber bullying

d) Plagiarism

Ans: b

ii) If you post something mean about someone, you can just delete it and everything will be Ok .

a) True

b) False

Ans: b

iii) Anonymous online posts/comments can _____ be traced back to the author.

a) Always

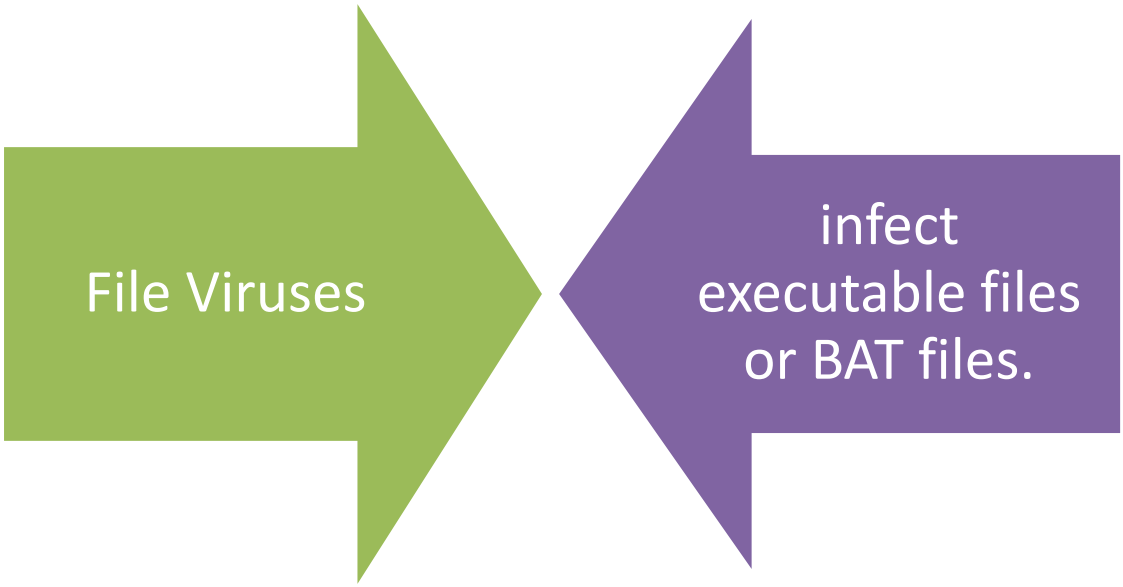
b) Never

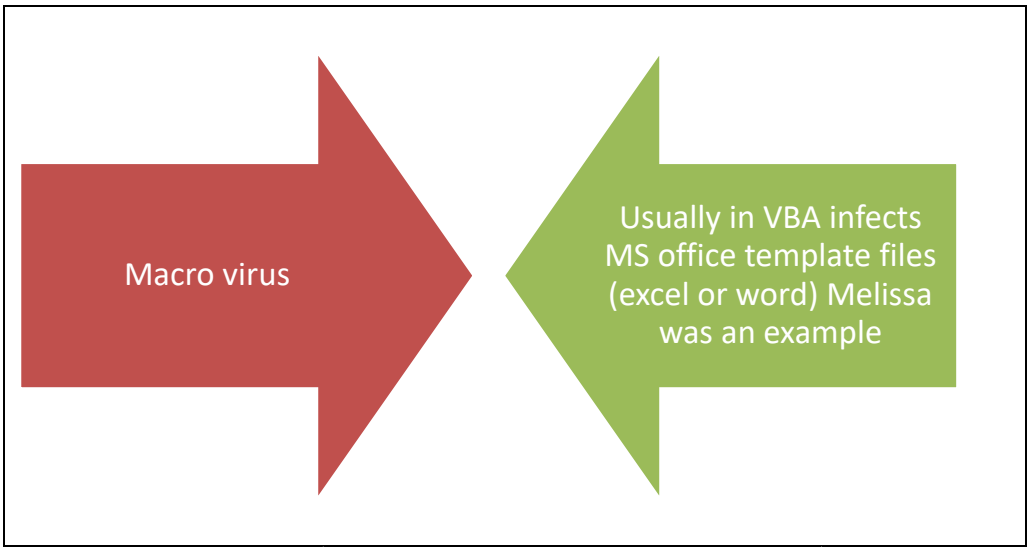
c) Sometimes

d) Many Times

Ans: a

FLASH CARDS





Phlashing

Hacking the software in flash memory firmware

What are the three types of cyber security controls?

Physical, Hardware, Devices

SAMPLE PAPERS - 2022

Class: XI Session: 2022-23

Computer Science (083)

Sample Question Paper (Theory)

Maximum Marks: 70 **Time Allowed: 3 hours**

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.

SECTION A

1. Which of the following is not an operating system- 1

   a. Windows b. Linux c. Oracle d. DOS

2. Antivirus software is _____ software. 1

   a. Application b. Utility c. System d. Chat

3. Which of the following is not a valid identifier name in Python? 1

a. 5Total b. _Radius c. pie d. name

4. Which function out of the following will return the data type of the object: 1

a. type() b. id() c. ord() d. str()

5. What is the value of this expression: **17%3** 1

a. 2 b. 1 c. 3 d. 0

6. Which of the following is not a keyword? 1

a. for b. if c. day d. while

7. Which one of these is floor division operator? 1

a. / b. // c. % d. !

8. What is the value of this expression: **3**1**2** 1

a. 9 b. 3 c. 6 d. 8

9. Which operator is used to check whether two variables are same? 1

a. - b. == c. = d. !=

10. Which out of the following is immutable data type? 1

a. List b. int c. String d. both b and c

11. Which of the following is Membership operator: 1

a. in b. and c. or d. %

12. Which statement is used to terminate the loop? 1

a. continue b. break c. for d. pass

13. Which statement can be used when a statement is required syntactically but the program requires no action. 1

a. break b. for c. continue d. pass

14. Function range(0, 5, 2) will yield on iterable sequence like 1

a. [0, 2, 4] b. [1, 3, 5] c. [0, 1, 2, 5] d. [0, 5, 2]

15. Write any two benefits of e-Waste Recycling. 1

16. Define Eavesdropping and give one example. 1

17. What do you understand by the term netizen? 1

18. What is Open Source Software? Give example. 1

SECTION B

19. Find the output of the following code: 2

```
sum = 0
for i in range(1,5):
        sum = sum + i
print(sum)
```

20. What do you mean by a tuple in Python? Write a statement to create a tuple named 'T1' with only one element i.e. 10. 2

21. 2

D = {'red':10, 'blue':15} is a dictionary in python.

(i) Write a python statement to add a new element 'black':25 in the dictionary D.

(ii) Write a python statement to change the value of red to 15 in the dictionary D.

22. 2

Find the output of the following code:

```
a, b, c=10, 20, 30
```

b=b+2

a+=2

c-=b

print(a,b,c)

23. How to concatenate two lists? Give an example. 2

24. Write the differences between Plagiarism and Copyright infringement. 2

25. Vikas has to make an online transaction through net banking. He wants to make sure that he is opening the genuine bank website and not some fake page. Write any two ways in which he can identify if his connection to the banking website is secure. 2

SECTION C

26. Briefly answer the following: 3

a) What is the difference between a compiler and an interpreter?

b)What is an Operating System? Write any two functions of operating system.

c)State True/False:

UTF-8 is a fixed length encoding scheme and UTF-32 is a variable length encoding scheme.

27. State output of the following 3

List = [12,13,14,15, ‘apple’, ‘mango’]

(i) print(List[2:6:2])

(ii) print(List+['a','b'])

(iii) print(4 in List)

28. Write a Python program to display the sum and mean/average of first n natural numbers. 3

29. State two differences between lists and tuples with example. 3

30. What are the gender and disability issues while teaching and using computers? What solutions do you suggest to handle such issues? 3

SECTION D

31. a) Draw the equivalent logic circuit for the following Boolean Expression: 5

A'.(B+C')

b) Name the law shown below and verify it using a truth table:

A+B.C=(A+B).(A+C)

c) Convert the following:

(i) $(106)_{10} = (?)_2$

(ii) $(111100111100)_2 = (?)_8$

(iii) $(B2F)_{16} = (?)_8$

32. a. Differentiate between clear(), pop() and popitem() functions in Dictionary by giving example for each. 5

b. Write the output of following Python code:

```
dict = {1: 4, 2: 5, 3: 1}
a = 0
b = 0
for i in dict.keys():
   a = a + i
print(a)

for i in dict.values():
   b = b + i
print(b)
```

33. 5

(i)Write the output of the following Python code-

```
t = (1,2,3,4,5,3,2,3,4,5,2,1)

print(t.count(2))
print(t.index(2))
```

(ii)Explain fromkeys(), setdefault() and copy() functions in Dictionary by giving example for each.

SECTION E

34. Write the output of the following: 4

```
L=[10, 20, 30]
item = L.pop(1)
print('ITEM:',item)

list1=[3,2,1,0,1,2,3]
list1.remove(3)
print('SUM OF LIST:',sum(list1))

list1.insert(6,4)
print('UPDATED LIST1:',list1)

newList=L[:3]+list1[3:]
print('NEW LIST:',newList)
```

35. 4

(a) Match the following:

Column A	**Column B**
Hacking	Crime, in which the attacker blackmails the victim to pay for getting access to the data
Credit card fraud	The trail that is created when a person uses the Internet
Digital Foot Print	Breaking into computers to read private emails and other files
Ransomware	Fakers, by offering special rewards or money prize asked for personal information, such as bank account information

(b) In school, Navneet forgot to sign out from his email account while leaving the computer laboratory. Later, his classmate Ankit started using the same computer. He is now logged in as Navneet. He sends inflammatory email messages to few of his classmates using Navneet's email account. Ankit's activity is an example of which of the following cyber crime? Justify your answer.

a) Hacking

b) Identity theft

c) Cyber bullying

d) Plagiarism

Class: XI Session: 2022-23

Computer Science (083)

MARKING SCHEME

Maximum Marks: 70 **Time Allowed: 3 hours**

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.

SECTION A

1. Which of the following is not an operating system- 1

   a. Windows b. Linux c. Oracle d. DOS

   c. Oracle

2. Antivirus software is _____ software. 1

   a. Application b. Utility c. System d. Chat

   b. Utility

3. Which of the following is not a valid identifier name in Python? 1

a. 5Total b. _Radius c. pie d. name

a. 5Total

4. Which function out of the following will return the data type of the object: 1

a. type() b. id() c. ord() d. str()

a. type()

5. What is the value of this expression: **17%3** 1

a. 2 b. 1 c. 3 d. 0

a. 2

6. Which of the following is not a keyword? 1

a. for b. if c. day d. while

c. day

7. Which one of these is floor division operator? 1

a. / b. // c. % d. !

b. //

8. What is the value of this expression: **3**1**2** 1

a. 9 b. 3 c. 6 d. 8

b. 3

9. Which operator is used to check whether two variables are same? 1

a. - b. == c. = d. !=

b. ==

10. Which out of the following is immutable data type? 1

a. List b. int c. String d. both b and c

d. both b and c

11. Which of the following is Membership operator: 1

a. in b. and c. or d. %

a. in

12. Which statement is used to terminate the loop? 1

a. continue b. break c. for d. pass

b. break

13. Which statement can be used when a statement is required syntactically but the program requires no action. 1

a. break b. for c. continue d. pass

d. pass

14. Function range(0, 5, 2) will yield on iterable sequence like 1

a. [0, 2, 4] b. [1, 3, 5] c. [0, 1, 2, 5] d. [0, 5, 2]

a. [0, 2, 4]

15. Write any two benefits of e-Waste Recycling. 1

½ mark for each benefit (any two)

- Save Landfill Space. Electronic waste is being thrown into landfills at an increasing rate each year
- Save Natural Resources.
- Increase in Employment.
- Saves the Environment.

16. Define Eavesdropping and give one example. 1

Definition- Eavesdropping is as an electronic attack where digital communications are intercepted by an individual whom they are not intended.

For definition ½ mark, for any correct example ½ mark

17. What do you understand by the term netizen? 1

Anyone who uses digital technology along with Internet

is a digital citizen or a netizen.

For any correct definition 1 mark

18. What is Open Source Software? Give example. 1

Open source software is software with source code that anyone can inspect, modify, and enhance.

Example- MySql, Linux

For any correct definition ½ mark and example ½ mark

SECTION B

19. Find the output of the following code: 2

sum = 0

for i in range(1,5):

sum = sum + i

print(sum)

10

20. What do you mean by a tuple in Python? Write a statement to create a tuple named ‘T1’ with only one element i.e. 10. 2

For tuple definition 1 mark

T1=(10,)

For correct statement 1 mark

21. 2

D = {‘red’:10, ‘blue’:15} is a dictionary in python.

(i) Write a python statement to add a new element ‘black’:25 in the dictionary D.

(ii) Write a python statement to change the value of red to 15 in the dictionary D.

(i) D[‘black’]=25

(ii) D[‘red’]=15

1 mark -for each correct statement

22. 2

Find the output of the following code:

a, b, c=10, 20, 30

b=b+2

a+=2

c-=b

print(a,b,c)

12 22 8

23. How to concatenate two lists? Give an example. 2

1 mark- for correct method

1 mark for example

24. Write the differences between Plagiarism and Copyright infringement. 2

2 marks for any 2 differences

25. Vikas has to make an online transaction through net banking. He wants to make sure that he is opening the genuine bank website and not some fake page. Write any two ways in which he can identify if his connection to the banking website is secure. 2

1. Check if the URL is misspelled
2. Look for padlock sign

1 mark - for each correct way

SECTION C

26. Briefly answer the following: 3

a) What is the difference between a compiler and an interpreter?

b)What is an Operating System? Write any two functions of operating system.

c)State True/False:

UTF-8 is a fixed length encoding scheme and UTF-32 is a variable length encoding scheme.

a) ½ mark for each difference (any 2 difference)
b) For operating system definition 1 mark, for any 2 functions 1 mark (½ mark for each function)
c) False

27. State output of the following 3

List = [12,13,14,15, ‘apple’, ‘mango’]

(i) print(List[2:6:2])

(ii) print(List+['a','b'])

(iii) print(4 in List)

[14, 'apple']

[12, 13, 14, 15, 'apple', 'mango', 'a', 'b']

False

1 mark- for each correct output

28. Write a Python program to display the sum and mean/average of first n natural numbers. 3

```
n = int(input("Enter number"))
sum = 0
# loop from 1 to n
for num in range(1, n + 1):
    sum = sum + num
print("Sum of first ", n, "numbers is: ", sum)
average = sum / n
print("Average of ", n, "numbers is: ", average)
```

29. State two differences between lists and tuples with example. 3

2 marks - any 2 differences (1 mark each)

½ mark - list example

½ mark - tuple example

30. What are the gender and disability issues while teaching and using computers? What solutions do you suggest to handle such issues? 3

1 mark-any 2 gender issues

1 mark -any 2 disability issues

1 mark- any 2 solutions to handle such issues

SECTION D

31. a) Draw the equivalent logic circuit for the following Boolean Expression: 5

A'.(B+C')

b) Name the law shown below and verify it using a truth table:

A+B.C=(A+B).(A+C)

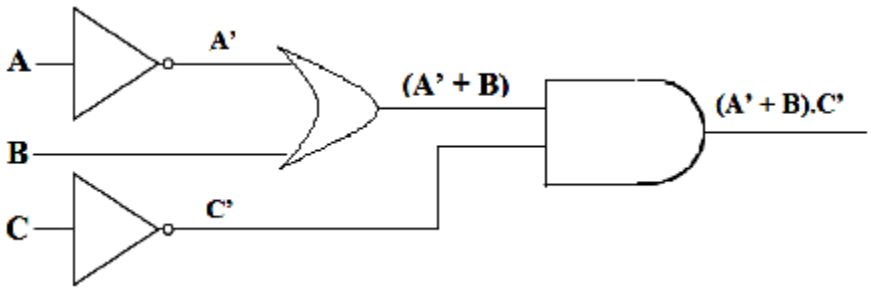
c) Convert the following:

(i) $(106)_{10} = (\ ?\ )_2$

(ii) $(111100111100)_2 = (\ ?\ )_8$

(iii) $(B2F)_{16} = (\ ?\ )_8$

a)



b)distributive law

½ mark for name of law, ½ mark for truth table

c)

(i) 1101010

(ii)7474

(iii) 5457

32. a. Differentiate between clear(), pop() and popitem() functions in Dictionary by giving example for each. 5

b. Write the output of following Python code:

```
dict = {1: 4, 2: 5, 3: 1}
a = 0
b = 0
for i in dict.keys():
   a = a + i
print(a)

for i in dict.values():
   b = b + i
print(b)
```

(a) 1 mark - for each correct explanation of function with example

(b)

6

10

1 mark for each correct output

33. (i)Write the output of the following Python code- 5

```
t = (1,2,3,4,5,3,2,3,4,5,2,1)

print(t.count(2))
print(t.index(2))
```

(ii)Explain fromkeys(), setdefault() and copy() functions in Dictionary by giving example for each.

(i)

3

1

1 mark- for each correct output

(ii)3 marks

1 mark - for each correct explanation of function with example

SECTION E

34. Write the output of the following: 4

```
L=[10, 20, 30]
item = L.pop(1)
print('ITEM:',item)

list1=[3,2,1,0,1,2,3]
list1.remove(3)
print('SUM OF LIST:',sum(list1))

list1.insert(6,4)
print('UPDATED LIST1:',list1)

newList=L[:3]+list1[3:]
print('NEW LIST:',newList)
```

ITEM: 20

SUM OF LIST: 9

UPDATED LIST1: [2, 1, 0, 1, 2, 3, 4]

NEW LIST: [10, 30, 1, 2, 3, 4]

1 mark for each correct output

35. 4

(a) Match the following:

Column A	**Column B**
Hacking	Crime, in which the attacker blackmails the victim to pay for getting access to the data
Credit card fraud	The trail that is created when a person uses the Internet
Digital Foot Print	Breaking into computers to read private emails and other files
Ransomware	Fakers, by offering special rewards or money prize asked for personal information, such as bank account information

(b) In school, Navneet forgot to sign out from his email account while leaving the computer laboratory. Later, his classmate Ankit started using the same computer. He is now logged in as Navneet. He sends inflammatory email messages to few of his classmates using Navneet's email account. Ankit's activity is an example of which of the following cyber crime? Justify your answer.

a) Hacking

b) Identity theft

c) Cyber bullying

d) Plagiarism

a) 2 marks

Hacking

Breaking into computers to read private emails and other files

Credit card fraud

Fakers, by offering special rewards or money prize asked for personal information, such as bank account information

Digital Foot Print

The trail that is created when a person uses the Internet

Ransomware

Crime, in which the attacker blackmails the victim to pay for getting access to the data

b) 1 mark- for correct answer

Identity theft

1 mark - for justification

Class: XI Session: 2022-23

Computer Science (083)

Sample Question Paper (Theory)

Maximum Marks: 70 **Time Allowed: 3 hours**

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.

SECTION A

1.	Which of the following is not a language processor? a. Assembler b. Operating system c. Compiler d. Interpreter	1
2.	Expand given terms: EEPROM , GPU	1
3.	If t=”hello” then which of the following is not valid in Python? a. t*2 b. t+t c. t+2 d. t+”hi”	1
4.	How can you know the datatype of a variable?	1

5.	What is the value of this expression: (10 == 9)and (7 > 5) a. True b. False c. None d. Can not find	1
6.	Which of the following is not a keyword? a. for b. if c. Else d. While	1
7.	Which one of these returns remainder on division? a. / b. // c. % d. !	1
8.	Which logical gate is also called inverter.	1
9.	Which operator is used to check whether two variables are same? a. - b. == c. = d. !=	1
10.	Which out of the following is mutable data type? a. List b. int c. String d. both b and c	1
11.	Which of the following is Membership operator: a. in b. and c. or d. %	1
12.	Which of the following are not valid strings in Python? (a)”Hello”(b) “Hello‘ (c)’Hello‘ (d) ‘Hello” (e) {Hello}	1
13.	Which statement can be used when a statement is required syntactically but the program requires no action. a. break b. for c. continue d. Pass	1
14.	Function range(8,1,-2) will yield on iterable sequence like a. [8,7,6,5,4,3,2,1] b. [7,5,3] c. [8,7,6,5,4,3,2] d. [8,6,4,2]	1

15. Write any two benefits of e-Waste Recycling. 1

16. How do websites track you online? 1

17. What is phishing? 1

18. What is Open Source Software? Give example. 1

SECTION B

19. What will be the output produced by following code fragment? 2

```
x, y= 20, 60
y, x, y=x, y-10, x+10
print (x, y)
```

20. What is the difference between a keyword and an identifier? 2

21. L= [11,34,56,23,67,78] is a list in python. 2

(i) Write a python statement to remove 78 from the list.

(ii) Write a python statement to insert 89 after 23 in the given list.

22. **What will be the output of following Python code?** 2

```
a=12
b=7.4
```

```
c=1
a-=b
print (a, b)
a*=2+c
print(a)
b+=a*c
print( b )
```

What is the output produced by the following code?

23.

```
x=1
if x>3:
  if x>4:
    print("A",end="")
  else:
    print("B",end="")
elif x<2:
 if (x!=0):
   print("C",end="")
print("D")
```

2

24. What is cyber bullying and cyber stalking? 2

25. Raman wanted to gift his brother a football or a wrist watch. So he searched for many sports items and wrist watches online. But after that every time he goes online, his webbrowser shows him advertisements about sports items and wrist watches. 2

(a) Why is this happening?
(b) How could have Raman avoided them?

SECTION C

Briefly answer the following:

26. a) What is the difference between system software and application software?
b)What is an Operating System? Write any two functions of operating system. 3
c)Explain IPO Cycle.

Name the function/method required to

(i) Check if a string contains only alphabets

27. (ii) Converts the first character to upper case 3

(iii) Converts a string into lower case

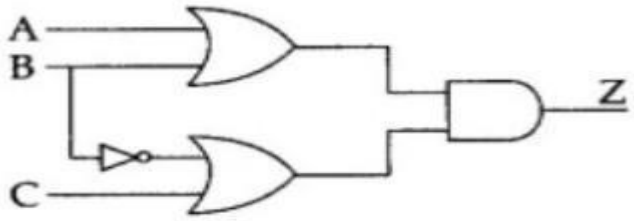
28. WAP to find minimum and maximum element in the given tuple. 3

29. WAP to check whether entered string is palindrome or not. 3

30. What are the gender and disability issues while teaching and using computers? What solutions do you suggest to handle such issues? 3

SECTION D

31. a) Write Boolean Expression for the given circuit. 5



b)Verify given expression using truth table:

A+B.C=(A+B).(A+C)

c) Convert the following:

(2345)7 =(?)10

(11110.111)2=(?)10

(231)4=(?)2find x.

(i)Write the output of the following Python code-

32.

```
t = (1,2,3,4,5,3,2,3,4,5,2,1)
print(t.count(2))
print(t.index(2))
```

5

(ii)Explain fromkeys(), setdefault() and copy() functions in Dictionary by giving example for each.

Python program to find number is armstrong or not , is given. Fill the given blanks.

33.

```
number = int(_____("enter number"))
num = number
digit, sum = ____ , _____
length = len(str(num))
```

5

```
for i in range(length):
  digit = int(num%10)
  num = num/10
  sum += pow(digit,_____)
if sum==number:
  print(_____)
else:
  print(_____)
```

SECTION E

a) Write a Python script to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x*x)..

Sample Dictionary(n=5):
Expected Output : {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

34. b)Suppose d = {“john”:40, “peter”:45}, to delete the entry for “john” what command do we use? 3+1

a)d.delete(“john”:40)
b)d.delete(“john”)
c)del d[“john”]
d) del d(“john”:40)

35. 4

1. Match the following:

Column A	Column B
Credit card fraud	Crime, in which the attacker blackmails the victim to pay for getting access to the data
Ransomware	a type of malware whose primary function is to self-replicate and infect other computers
Worm	Breaking into computers to read private emails and other files
Hacking	Fakers, by offering special rewards or money prize asked for personal information, such as bank account information

2. What is private browsing? Why is it considered a better way of browsing the internet?

SAMPLE QUESTION PAPER-2022-23

CLASS XI

SUBJECT: COMPUTER SCIENCE

Note: a) All questions are compulsory. **Time**: 3 HOURS

b) Give examples wherever possible. **Max Marks**: 70

Q. No	Question	Marks
	SECTION A	
1.a)	256_{16} = _____$_2$	**1**
b)	Which of the following is/are the universal logic gates?	**1**

A. OR and NOR B. AND C. NAND and NOR D. NOT

c) _____ is the term for a program being run by the computer **1**

d) When we work on any document on PC, it is stored temporarily in_____ memory **1**

A) RAM B) ROM C) CPU D) CD-ROM

e) State DeMorgan's Theorem **1**

f) What is utility software? Give example. **2**

G) Draw the logic circuit for the Boolean expression: F=AB' +(CD)' **2**

H) Give full form of: **3**

i) ISCII
ii) MICR
iii) OCR

SECTION B

2.a) identify the valid identifiers from the following: **1**

i) myname1 ii) While iii) 1stname iv) for

b) 'All the Best!'._____ will produce the list ['All','the','Best!'] **1**

c) evaluate the expression: 15+3*2-(9**0.5) **1**

d) Value=("abcd",[1,2,3],10,"xyz') **1**
Identify the data type of Value
(i) list (ii) dictionary (iii) string (iv) tuple

e). import random **1**
X=random.randint(1,4)
In the above code, X will take minimum value_____ and maximum value_____

f) Correct the errors in the given code and underline the corrections **2**

```
Num = input("Number:")
Sum = 0
For i in range(10,Num)
    Sum+=i
    if i%5
    print( i*2)
    Else:
        print ( Sum)
```

3.a) Predict the output of the following code snippet if N is given the value 2: **3**

```
N=int(input("enter a number"))
```

```
C=1
while (C<8):
    if(C==3 or C==5):
        C+=1
        continue
    print(C,'*',N,'=',C*N)
    C+=1
```

b) Write a program to get a list of numbers from the user and triple the value of all the elements at the even position. For example, if the list entered is [1,2,3,4,5,6] the resultant list should be [3,2,9,4,15,6] **2**

c) Write 2 mutable and 2 immutable datatypes **2**

d) Give the output of the following code **2**

```
T=(2,'abc',39)
X,Y,Z=T
print(X,Y*2,Z//4)
```

e) Write a program to check if a string given by the user is a palindrome or not and display the result **2**

f) Write any four safety measures that can reduce the risk of cyber crime **2**

g) Ms Sharmishtha has many electronic gadgets which are not usable due to outdated hardware and software. Help her to find three best ways to dispose the used electronic gadgets. **2**

4.a) A=100 **1**
print(a)
What is the exception that will occur and why?

b) Give the output: **1**

```
import statistics as M
L=[1,2,3,4,5,6,7,8,9,10]
print(M.mean(L))
```

c) If L =[10,14,18,22,'four numbers'], evaluate and write the output of the following **2**

I) L[1::3]
II) L[4][0:4]

d) What will the output for following code? **3**

```
S='Model Exams 2022. Computer Science'
L=S.split()
for I in L:
    if I[0]=='C':
        print('CS')
    elif I[0]=='E':
        print('Experiment')
    elif I.isdigit():
        print('0000')
    else:
        print(I)
```

e) Write the difference between list and dictionary with example **2**

f) Write program to find factorial of a given number **2**

g) i) _____ function in list is used to add multiple elements at end of list **2**

ii) Write the output:

```
a=10
print(type(a))
```

SECTION C

5.a) **Identify the type of cyber crime for the following situations:**

1. Sabhya quickly downloads a 2-minute clip from the internet explaining the concept of dictionary in Python. Using video editor, he adds the text "Prepared by Sabhya" in the downloaded video clip. He then emails the modified video clip to Ahaana. This act of Sabhya is an example of:

(a) Fair use (b) Hacking (c) Copyright infringement (d) Cybercrime 5

2. Ms. Kavita complains that her debit/credit card is safe with her still somebody has done shopping /ATM transaction on this card.

3. A person complains that somebody has created a fake profile of Facebook and

defaming his/her character with abusive comments and pictures.

4. Ravi received an email from First Generic Bank (as shown below). On clicking the link,
he was taken to a site designed to imitate an official looking website. He uploaded
some important information on it.

5. After a fight with your friend, you created an embarrassing picture of your friend and
uploaded on your account on a social networking site.

b) Write a Python Program to find max among three input numbers using if - elif statement 5

c) Results is a dictionary containing Name and Score of students in key: value pair.
Results= {"A":240,"B":340,"C":350,"D":280,"E":370}
Perform following operations on it.

a) Print name of all the students having score >250
b) Change marks of student "C" to 450.
c) Calculate average score in this class.
d) Add one more student with name "G" with score 290.
e) Delete entry of student "C" from it.

OR 5

s= "Welcome to python world"
Write output for given statements:

a) print (s.isalpha())
b) print (s.islower())
c) print(s.upper())
d) print(s.capitalize())
e) print(s.title())

SECTION D

e) Anitha is trying to create a program to get student marks and generate a simple report card. As a programmer, help him to complete the program for its successful execution.

```
##program to get student marks and display grade and average
from _____________ import mean          #LINE1
print('**Student Details**')
while True:
   Rno=int(input('Enter student roll no(should be less than 40):'))
   if Rno >= 40:
      print('you entered wrong roll no. please re-enter details')
      ____________                      #LINE2
   Name=input('Enter student name:')
   Marks=eval(input('Enter list of marks in 5 subjects:'))
   avg=mean(Marks)
   if 90 < avg <= 100:
      Grade='A+'
      Msg='Excellent!!'
   elif 70 <= avg <=90:
      Grade='B'
      Msg="Great. Keep it up"
   elif 50 <= avg <70:
      Grade='C+'
      Msg='Good but you need to work harder'
   elif 30 <= avg <50:
      Grade='C'
      Msg='You can do better'
   elif 0 <= avg < 30:
      Grade='D'
      Msg='You can definitely do better. Please meet Class Teacher'
   _____:                            #LINE3
      Grade='Error'
      print('Something wrong.  reenter details correctly')
      continue
print('**REPORT CARD**\nRollno:',Rno,'\tName:',Name)
print('Average marks:',avg,'\tOverall Grade:',Grade,'\n',Msg)
   Choice=input('Do you wish to enter more data? enter y/n: ')
```

```
if Choice._____=='n':          #LINE4
    _________                  #LINE5
print ('END OF PROGRAM')
```

A. Which module should she import in LINE1 to be able to use mean function? [1]

B. Which JUMP statement should she use in LINE2 to go back to beginning of the WHILE Loop? [1]

C. Which keyword should she use in LINE3? [1]

D. Which function should she call in LINE4 to convert Choice to lower case? [1]

Which JUMP statement is to be included in LINE5 to come out of the WHILE LOOP? [1]

f) Consider the following Algorithm and then answer any Four Questions from following:

1. Start
2. Set S = 0
3. Input N
4. If N > 0 then proceed to step 5 else proceed to step 10
5. Calculate Remainder of N ÷ 10 say R
6. S = S+ R
7. Calculate Integer Part of Quotient of N ÷ 10 say Q
8. Set N = Q
9. Proceed to Step 4
10. Print S
11. End.

4

i) What is the above lines called as :

a) Program

b) Pseudocode

c) Flowchart

d) None of the Above

ii) What is the purpose of the above Algorithm:

a) It calculates sum of factors of a Number N

b) It calculates sum of multiples of a Number N

c) It calculates sum of digits of a Number N

d) It calculates sum of all digits which are divisible by 10 in the Number N

iii) What will be the Final value of N after completion of above algorithm :

a) 0

b) 1

c) 2

D) 10

iv) What will happen to the result obtained by the algorithm if the positions of steps 6 and 7 are exchanged?

a) Will effect on the result of the algorithm and it will change

b) Will not effect on the result of the algorithm and it will be same as earlier.

c) Will stop algorithm from working, at all.

d) None of the above.

v) Which type of Flow of Logic is shown in the above Algorithm:

a) Sequential

b) Conditional

c) Iterative (Cyclic)

d) Procedural

KENDRIYA VIDYALAYA SANGATHAN, CHENNAI REGION

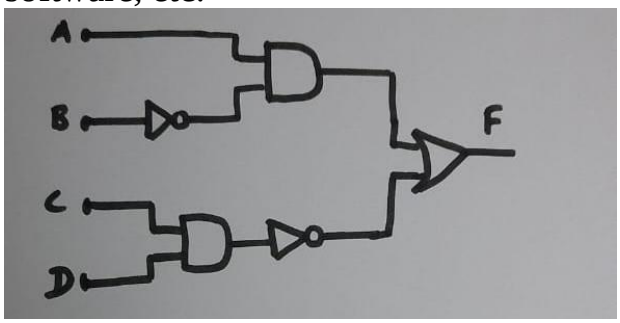
SAMPLE QUESTION PAPER-2022-23

CLASS XI

SUBJECT: COMPUTER SCIENCE

Note: a) All questions are compulsory. **Time**: 3 HOURS

b) Give examples wherever possible. **Max Marks**: 70

Q. No	Question	
	SECTION A	
1.a)	$0010\ 0101\ 0110_2$	**1**
b)	C. NAND and NOR	**1**
c)	process	**1**
d)	A) RAM	**1**
e)	(A+B)' = A' . B' (A.B)'= A' + B'	**1**
f)	Software used for maintenance and configuration of the computer system is called system utility. Some system utilities are shipped with the operating system for example disk defragmentation tool, formatting utility, system restore utility, etc. Another set of utilities are those which are not shipped with the operating system but are required to improve the performance of the system, for example, anti-virus software, disk cleaner tool, disk compression software, etc.	**2**
G)		**2**
H)	Give full form of: iv) ISCII - **Indian Script Code for Information Interchange** v) MICR - Magnetic Ink Character Recognition vi) OCR - **Optical Character Recognition**.	**3**
	SECTION B	
2.a)	**ii)** myname1 ii) While	**1**
b)	split()	**1**
c)	18.0	**1**
d)	(iv) tuple	**1**

e). In the above code, X will take minimum value 1 and maximum value 4 **1**

f) Correct the errors in the given code and underline the corrections **2**

```
Num = int(input("Number:"))
Sum = 0
for i in range(0,Num):
    Sum+=i
    if i%5:
      print( i*2)
    else:
        print ( Sum)
```

3.a) Predict the output of the following code snippet if N is given the value 2: **3**

```
1 * 2 = 2
2 * 2 = 4
4 * 2 = 8
6 * 2 = 12
7 * 2 = 14
```

b)

```
N=eval(input('enter a list of numbers:'))
for i in range(len(N)):
   if i%2 == 0:
      N[i] *= 3
```

2

c) mutable -- List , diuctionary **2**
immutable datatypes – int, string, tuple

d) 2 abcabc 9 **2**

e)

```
String = input('Enter a string:')
if String == String[-1::-1]:
   print('its a palindrome')
else:
   print('its not a palindrome')
```

2

f)

1. Take regular backup of important data **2**
2. Use an antivirus software and keep it updated always
3. Avoid installing pirated software. Always download software from known and secure (HTTPS) sites
4. Always update the system software which include the Internet browser and other application software
5. Do not visit or download anything from untrusted websites
6. Usually the browser alerts users about doubtful websites whose security certificate could not be verified; avoid visiting such sites
7. Use strong password for web login, and change it periodically. Do not use same password for all the websites. Use different combinations of

alphanumeric characters including special characters. Ignore common words or names in password

8. While using someone else's computer, don't allow browser to save password or auto fill data, and try to browse in your private browser window
9. For an unknown site, do not agree to use cookies when asked for, through a Yes/No option.
10. Perform online transaction like shopping, ticketing, and other such services only through well-known and secure sites
11. Always secure wireless network at home with strong password and regularly change it.

g) 1. Give Back to Your Electronic Companies and Drop Off Points **2**
2. Visit Civic Institutions
3. Donating Your Outdated Technology
4. Sell Off Your Outdated Technology

4.a) A=100 **1**
print(a)
NameError: name 'a' is not defined

b) 5.5 **1**

c) If L =[10,14,18,22,'four numbers'], evaluate and write the output of the following **2**

III) [14, 'four numbers']
IV) 'four'

d) What will the output for following code? **3**

Model
Experiment
2022.
CS
Science

e) List is indexed sequence -- Dictionary is mapping **2**
List can be sliced. Dictionary cannot be sliced

f) print ("Program to generate factorial of a given number") **2**
no=int(input("enter the natural number: "))
if no < 0:

```
    print('factorial not possible for negative number')
else:
    fact=1
    i=1
    while i<=no:
        fact*=i
        i+=1
    print("factorial of given number",fact)
```

g) i) extend() function in list is used to add multiple elements at end of list **2**

ii) <class 'int'>

SECTION C

5.a) Identify the type of cyber crime for the following situations:

1 *(c) Copyright infringement*

2. Card fraud

3. Trolling

4. Phishing

5. Cyber bullying

5

b)

```
print('****program to find greatest of 3 numbers****')
num1,num2,num3=eval(input('enter 3 unique numbers: '))
if num1 > num2 and num1 > num3:
    print('The greatest of the three nos. is : ',num1)
elif num2 > num3 and num2 > num1:
    print('The greatest of the three nos. is : ',num2)
elif num3 > num1 and num3 > num2:
    print('The greatest of the three nos. is :',num3)
else:
    print('any two nos are equal')
```

5

c)

f) Print name of all the students having score >250 5

```
for name in results:
    if results[name]>250:
```

```
        print (name)
```

g) Results [‘C’] = 450

h)
```
sum = 0;cnt =0
for name in Results:
  sum += Results[name]
  cnt+=1
avg = sum/cnt
```

i) Results[‘G’]=290

j) del Results['C']

OR

s= “Welcome to python world”

Write output for given statements:

f) print (s.isalpha()) -- False

g) print (s.islower()) -- False

h) print(s.upper()) -- 'WELCOME TO PYTHON WORLD'

i) print(s.capitalize()) -- 'Welcome to python world'

j) print(s.title()) -- 'Welcome To Python World'

SECTION D

e)

E. statistics [1]

F. continue [1]

G. else [1]

H. lower() [1]

I. break [1]

4

f) vi) b**) Pseudocode**

vii) c) It calculates sum of digits of a Number N

viii) a) 0

ix) b) Will not effect on the result of the algorithm and it will be same as earlier.

x) c) Iterative (Cyclic)

4

Class: XI Session: 2022-23

Computer Science (083) Sample Question Paper (Theory)

Maximum Marks: 70 Time Allowed: 3 hours

General Instructions:

1. This question paper contains five sections, Section A to E.

2. All questions are compulsory.

3. Section A have 18 questions carrying 01 mark each.

4. Section B has 07 Very Short Answer type questions carrying 02 marks each.

5. Section C has 05 Short Answer type questions carrying 03 marks each.

6. Section D has 03 Long Answer type questions carrying 05 marks each.

7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.

8. All programming questions are to be answered using Python Language only.

SECTION A:

1. Define PROM

2.A box that can represent two different conditions is……..

3. Which of the following is not a example of hexadecimal number?

a) 1C2 b) 2A.1 c) 1ABCD d) 67GA

4. The operating system that uses two or more CPU's within a single computer is called…….

5. What is the output for the following code

```
x=12
x=5
x=x+x
```

print(x)

a) 10 b) 17 c) 5 d) none

6. write the full form of ASCII?

7. Convert $(145)_8$ to decimal number

8. Python files are saved with the extension of ……

9. The smallest element in Python is ……

10. for x in range (5):

print(x)

a) 1234 b) 01234 c) 12345 d) 012345

11. The loop that is best suited to handle iterations is…….

12. str=”togetherwithpython”

str.count(“t”)

output will be……

a) 3 b) 2 c) none d) zero

13. Tuples are……datatypes

14. item=[‘a’,’b’,’c’,’d’]

name=item.pop()

print(name)

predict the output.?

15. Which statement is used to create an empty dictionary?

a) d1={ } b) d1=( ) c) d1= dict{ } d) d1=[ ]

16. Gaining someone else’s identity without his/her knowledge and misuse it

a) cyber fraud b) identity theft c) data fraud d) cyber theft

17.A license allows the user to use coprright material. Say true or false

18. The main purpose of pseudocode is…….

a) development b) design c) coding d) debugging.

SECTION B:

19. Differentiate primary and secondary memory.

20.Write the different functions of Control unit?

21. Write the decimal equivalent of binary number? 101.0110

22.What do you meant by Python identifier?

23.What is the difference between selection and repetition?

24.Write the for loop to print the values from 1 to 10 in separate lines?

25. Lists and Tuples are ordered. Explain.

SECTION C:

26 Write a python program to create a dictionary from a string?

27. Write any 2 ways to protect personal data on social media…..2 marks

Name the most common technique of electronic fraud?.....1 mark

28. What is dynamic typing.? Explain with an example.

29. Write any 3 methods used in list.

30.mylist=[10,20,30,40]

mylist.append([50,60])

mylist.extend([80,90])

mylist.sort()

SECTION D:

31.Write a python program to find the highest 2 values in a dictionary.

32.Find the output for the following segments.

(i) a=110

```
    while a >100:
        print(a)
        a-=2
```

(ii)
```
for i in range (20,30,2):
        print(i)
```

(iii)
```
country=”INDIA”
      for i in country:
          print(i)
```

(iv)
```
i=0; sum=0
      while i<9:
         if i%4==0:
            sum=sum+i
             i=i+2
print(sum)
```

33. Write a python program to print the mathematical tables from 1 to 10.

SECTION E:

34. Write the different types of plagiarism.

35.Abi has written a following code.

```
 st=input(“enter a string”)
print(st)
ch=input(“enter the character to be searched;   “)
count=0
for character in st:
    if character== ch:
```

count+=1

print(“number of times character”,ch,”occurs:”,count)

a) Now she wants to show a copy of the string with uppercase characters converted into lowercase. Which of the following function will be used?
   (i) Count() (ii) partition() c) swapcase() d) strip()
b) She does not know the syntax of doing so, help her in doing by choosing the correct option.
   (i) print(swapcase())
   (ii) print(st.swapcase())
   (iii) print(st.swapcase)
   (iv) print(swapcase.st)
c) She wants to capitalize the first character of the string,then…..must be used
   (i) lower() (ii) upper() (iii) capitalize() (iv) find()
d) Now she wants first character of every word in the string must be in uppercase.
   (i) st.istitle() b) st.isupper() c) st.islower() d) none

e). She wants to check whether all the character of the string are alphabet or not

(i) isdigit() b) istitle() c) isupper() d) isalpha()

SOLUTION FOR SAMPLE PAPER CLASS 11

SECTION A:

1. Programmable Read Only Memory is a memory chip on which data can be written only once and remains forever
2. Parallelogram
3. Option d
4. Multi processing
5. Option a
6. American Standard Code for Information Interchange
7. $(101)_{10}$
8. .py

9. Tokens
10. Option b
11. for loop
12. Option a
13. Immutable datatypes
14. Item=[‘a’, ’b’ , ‘c’]
15. Option a
16. Option b
17. True
18. Option b

SECTION B

19. Primary memory is the computer's main memory and stores data temporarily. Secondary memory is external memory and saves data permanently. Data stored in primary memory can be directly accessed by the CPU, which cannot be accessed in secondary memory.
20. Functions of control unit:

Fetching instructions one by one from primary memory and gather required data and operands to perform those instructions.

Sending instructions to ALU to perform additions, multiplication etc.

Receiving and sending results of operations of ALU to primary memory

Fetching programs from input and secondary memory and bringing them to primary memory

Sending results from ALU stored in primary memory to output

21. $(5.375)_{10}$
22. Python Identifier is the name we give to identify a variable, function, class, module or other object. Basically, identifiers are the sequences of alphabet or digits
23. Selection: Algorithms can use selection to determine a different set of steps to execute based on a Boolean expression. Iteration: Algorithms often use repetition to execute steps a certain number of times or until a certain condition is met.
24. The for loop is as follows:

```
for i in range(1,11):
    print(“%d” %i)
```

25. In Lists and Tuples, the items are retained in the order in which they are inserted. The elements can always be accessed based on their position. The element at the

position or 'index' 0 will always be at index 0. Therefore, the Lists and Tuples are said to be ordered collections.

SECTION C:

26.
```
str= input("Enter any string")
dict={ }
for ch in str:
  if ch in dict:
    dict[ch]+=1
  else:
    dict[ch]=1
print(dict)
```

output:

Enter any string: alphabet

{'a':2, 'l'=1, 'p'=1, 'h'=1, 'b'=1, 'e'=1, 't'=1}

27.

- Create strong passwords. ...
- Don't overshare on social media. ...
- Use free Wi-Fi with caution. ...
- Watch out for links and attachments. ...

b) Identity theft

28. The term dynamic typing means that a compiler or an interpreter assigns a type to all the variables at run-time. The type of a variable is decided based on its value.

29.pop()
clear()
count()

30.
```
mylist=[10,20,30,40,[50,60]]
mylist=[10,20,30,40,[50,60],80,90]
mylist=[10,20,30,40,[50,60],80,90]
```

SECTION D

31.
```
dict={'p':9, 'y'=20, 't'=4, 'h'=8, 'o'=1, 'n'=5}
lst=list()
for a in dict.values():
  lst.append(a)
  lst.sort()
print("highest value:",lst[-1])
print("second highest value:", lst[-2])
```

Output:

Highest value: 20

Second highest value: 9

32.(i) 110

108

106
104
102

(ii) 20
22
24
26
28

(iii) I
N
D
I
A

(iv) 12

33.
```
for i in range(1,11):
    print("table %d" %i)
    print("……")
    for j in range(1,11):
        k=i*j
        print("%d * %d=%4d" %(i,j,k))
```

34. global plagiarism

paraphrasing plagiarism

verbatim plagiarism

35. a) c

b)(ii)

c) iii

d) b

e) d.

Class: XI Session: 2022-23
Computer Science (083)

Sample Question Paper (Theory)

Maximum Marks: 70 Time Allowed: 3 hours General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.
8. All programming questions are to be answered using Python Language only.

SECTION A

1. State True or False 1

"Antivirus software is type of system software"

2. Which of the following is a valid data type in Python? 1

(a) For (b) None (c) for (d)while

3. Which character is used in Python to make a single line comment? 1

(a) /
(b) //
(c) #
(d) *

4. Choose the name of the process in which someone's intellectual work is stolen by someone and represented as its own. 1

(a) Copying
(b) Plagiarism
(c) Copy and paste

(d) Intellectual steal

5. Which statement is correct? 1

(a) List is immutable && Tuple is mutable

(b) List is mutable && Tuple is immutable

(c) Both are Mutable.

(d) Both are Immutable

6. What is the output of this expression 2 * 3 ** 3 * 4 ? 1

(a) 216 (b) 864 (c) 72 (d) Error

7. What is the output of the following code: 1

```
x = 100
y = 50
print(x and y)
```

(a) True (b) 100 (c) False (d) 50

8. Operating system is an example of which type of software? 1

(a) Application software
(b) System software
(c) Utility Software
(d) None of these

9. Which of the following statement(s) would give an error after executing the following code? 1

```
str1="Hello"              # Statement 1
print(str1)          # Statement 2
str2=10              # Statement 3
str3=str1+str2       # Statement 4
S=str1*str3"              #Statement5
```

(a) Statement 3
(b) Statement 4
(c) Statement 5
(d) Statement 4 and 5

10. What is the most widely used method for e-waste disposal? 1

(a) Burning
(b) Recycling
(c) Landfilling
(d) Disintegration

11. Find out the type of error in the following code: 1

```
x=x+10
y=x*x
print(x,y)
```

(a) Value error
(b) Name error
(c) Type error
(d) none of above

12. Find out the output of given code: 1

```
if 1 + 3 == 7:
  print("Hello")
```

else:

print("Bye")

(a) Bye
(b) Hello
(c) HelloBye
(d) hello Bye

13. Fill in the blank: 1

____ Memory can not store the data permanently.

(a) Flash Memory (b) Cache (c) RAM (d)Hard Disk

14. Convert the following while loop into for loop: 1

```
x=0
while(x <4):
        print(x)
        x = x+1
```

15. Choose the correct data type for given example. 1

a=[5,4,9,'a','b']

(a) List
(b) Tuple
(c) String
(d) None of above

16. Python considers the character can be enclosed in triple quotes then choose the option true\false. 1

(a) True
(b) False
(c) can not say
(d) none of above

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct

choice as

(a) Both A and R are true and R is the correct explanation for A
(b) Both A and R are true and R is not the correct explanation for A
(c) A is True but R is False
(d) A is false but R is True

17. Assertion: Recycling is the only solution for the treatment of e-waste, provided it is carried out in an environment friendly manner. 1

Reason: During the recycling process, metals like copper, iron, silicon, nickel and gold are recovered in developing countries.

18. Assertion (A): Items in dictionaries are unordered. 1

Reason (R): We may not get back the data in which order we had entered the data initially.

SECTION B

19. What will be the output of the following Python program? 2

```
i = 0
while i < 5:
    print(i)
    i += 1
    if i == 3:
        break
    else:
print(0)
```

20. Draw the logic circuit for the following equation: 2

A'B'+(AB)'

OR

Draw the logic symbol of any two basic gates.

21. What is the result of executing the following code? 1

```
number = 5
while number <= 5:
    if number < 5:
        number = number + 1
    print(number)
```

(a) The program will loop indefinitely
(b) The value of number will be printed exactly 1 time
(c) The while loop will never get executed
(d) The value of number will be printed exactly 5 times

22. Define nested tuples and write one example to show operation of the nested list. 2

23. Write any two possible solutions for special needs students. 2

or

Define plagiarism and why it is a punishable offense?

24. Predict the output of the Python code given below: 2

```
L=[2,3,4,6,9,3,8,9)
```

```
print(L.index(4))
print(L.count(3))
L.append(L.count(9))
print(L)
```

OR

Predict the output of the Python code given below:

```
T1=(1,2,3,4,5,6,7,8)
print(T1[0])
print(T1[-1])
print(T1[4-1])
print(T1[2:6:2])
```

25. Evaluate any two from the following conversions: 2

(a) $(421.5)_{10}=(?)_8$
(b) $(BAD)_{16}=(?)_{10}$
(c) $(1101100)_2=(?)_{16}$

SECTION C

26. A tuple store marks of a student in 5 subjects .Write a program to calculate the grade of the student as per following details: 3

Average	Grade
>=80	A
80-70	B

70-55	C
55-33	D
<33	E

27. Proof the Demorgan's Laws with the help of truth tables. 3

OR

Explain Universal gates with the help of truth tables.

28. ASHA making a project on" Environment cleanliness" and downloading some pages from web browser ,she completed her work in three steps ,so give your justification for following steps if any ethics violates or not : 3

(a) She read a paragraph then she pasted it in her report with the same words.
(b) She downloaded images and pasted them in her report in the form of collage.
(c) She copied the logo of one organization related with cleanliness and pasted on front page of her report

29. Write a program that repeatedly asks the user to enter product names and prices. Store all of them in a dictionary whose keys are product names and values are prices. And also write a code to search an item from the dictionary. 3

For example:

If D={'eraser': 10,'pen':25,'pencil':10}

Enter the product you want search: 'eraser'

output: "product found with price: 10"

otherwise

" Not found"

30. Write a program for checking whether the given string is palindrome or not. 3

For Example: Entered string :" MoM"

output: Entered string is palindrome string

OR

Write a program to find the average of the list of the numbers entered through keyboard.

for Example:

L=[2,6,7,8,9,10]

Output:

Average of the numbers is : 7

SECTION D

31. Write the output for the following statements on the given string: 5

s= " interesting facts"

(a) print(s.upper())
(b) print((s.split(' '))
(c) print(s.find('CTS'))
(d) print(s.index('e'))
(e) print(s.replace('sacts', 'idea'))

OR

Write a program for checking whether the given character is uppercase ,lowercase, digit ,special symbol or white space.

32. Write the most appropriate list method to perform the following task: 5

(a) Add 4th element in the given list
(b) Add element in the last position of the list
(c) Delete 2nd element from the given list
(d) Delete the given element from the given list
(e) Add elements more than one at the end of given list.

33. Write a program to create a dictionary with the roll number,name and marks of n students in a class and displays the name of students whose marks are greater than 70. 5

OR

Write a program to print minimum, maximum,sum of keys of numbers dictionary as given below:
numbers= {1:100,2:200,3:300,4:400}

SECTION E

34. Match the following: 4

Column A	Column B
Plagiarism	Fakers, by offering special rewards or money prize asked for personal information, such as bank account information
Hacking	Copy and paste information from the Internet into your report and then organise it
Credit card fraud	The trail that is created when a person uses the Internet.
Digital Foot Print	Breaking into computers to read private emails and other files

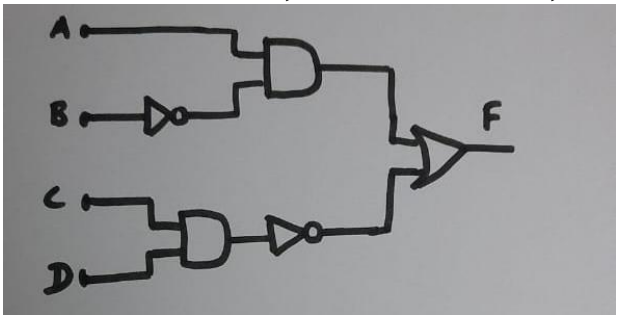
35. Explain any 4 built in functions which can be performed over a given tuple. 4

OR

Explain any 4 built in functions which can be performed over a given list.

KENDRIYA VIDYALAYA SANGATHAN, CHENNAI REGION
SAMPLE QUESTION PAPER-2022-23
CLASS XI
SUBJECT: COMPUTER SCIENCE

Note: a) All questions are compulsory. **Time**: 3 HOURS
b) Give examples wherever possible. **Max Marks**: 70

Q. No	**Question**	
SECTION A		
1.a)	$0010\ 0101\ 0110_2$	**1**
b)	C. NAND and NOR	**1**
c)	process	**1**
d)	A) RAM	**1**
e)	(A+B)' = A' . B' (A.B)'= A' + B'	**1**
f)	Software used for maintenance and configuration of the computer system is called system utility. Some system utilities are shipped with the operating system for example disk defragmentation tool, formatting utility, system restore utility, etc. Another set of utilities are those which are not shipped with the operating system but are required to improve the performance of the system, for example, anti-virus software, disk cleaner tool, disk compression software, etc.	**2**
G)		**2**
H)	Give full form of: vii) ISCII - **Indian Script Code for Information Interchange** viii) MICR - Magnetic Ink Character Recognition ix) OCR - **Optical Character Recognition**.	**3**

SECTION B

2.a) **iii)** myname1 ii) While **1**

b) split() **1**

c) 18.0 **1**

d) (iv) tuple **1**

e). In the above code, X will take minimum value 1 and maximum value 4 **1**

f) Correct the errors in the given code and underline the corrections **2**

```
Num = int(input("Number:"))
Sum = 0
for i in range(0,Num):
    Sum+=i
    if i%5:
      print( i*2)
    else:
        print ( Sum)
```

3.a) Predict the output of the following code snippet if N is given the value 2: **3**

```
1 * 2 = 2
2 * 2 = 4
4 * 2 = 8
6 * 2 = 12
7 * 2 = 14
```

b)

```
N=eval(input('enter a list of numbers:'))
for i in range(len(N)):
   if i%2 == 0:
      N[i] *= 3
```

2

c) mutable -- List , diuctionary **2**
immutable datatypes – int, string, tuple

d) 2 abcabc 9 **2**

e)

```
String = input('Enter a string:')
if String == String[-1::-1]:
   print('its a palindrome')
else:
   print('its not a palindrome')
```

2

f) 12.Take regular backup of important data **2**
13.Use an antivirus software and keep it updated always

14. Avoid installing pirated software. Always download software from known and secure (HTTPS) sites
15. Always update the system software which include the Internet browser and other application software
16. Do not visit or download anything from untrusted websites
17. Usually the browser alerts users about doubtful websites whose security certificate could not be verified; avoid visiting such sites
18. Use strong password for web login, and change it periodically. Do not use same password for all the websites. Use different combinations of alphanumeric characters including special characters. Ignore common words or names in password
19. While using someone else's computer, don't allow browser to save password or auto fill data, and try to browse in your private browser window
20. For an unknown site, do not agree to use cookies when asked for, through a Yes/No option.
21. Perform online transaction like shopping, ticketing, and other such services only through well-known and secure sites
22. Always secure wireless network at home with strong password and regularly change it.

g) 1. Give Back to Your Electronic Companies and Drop Off Points **2**
2. Visit Civic Institutions
3. Donating Your Outdated Technology
4. Sell Off Your Outdated Technology

4.a) A=100 **1**
print(a)
NameError: name 'a' is not defined

b) 5.5 **1**

c) If L =[10,14,18,22,'four numbers'], evaluate and write the output of the following **2**

V) [14, 'four numbers']
VI) 'four'

d) What will the output for following code? **3**

```
Model
Experiment
2022.
CS
Science
```

e) List is indexed sequence -- Dictionary is mapping **2**
List can be sliced. Dictionary cannot be sliced

f) **2**

```
print ("Program to generate factorial of a given number")
no=int(input("enter the natural number: "))
if no < 0:
   print('factorial not possible for negative number')
else:
   fact=1
   i=1
   while i<=no:
      fact*=i
      i+=1
   print("factorial of given number",fact)
```

g) i) extend() function in list is used to add multiple elements at end of list **2**

ii) <class 'int'>

SECTION C

5.a) Identify the type of cyber crime for the following situations:

1 *(c) Copyright infringement*

2. Card fraud

3. Trolling

4. Phishing

5. Cyber bullying

5

b)

```
print('****program to find greatest of 3 numbers****')
num1,num2,num3=eval(input('enter 3 unique numbers: '))
if num1 > num2 and num1 > num3:
    print('The greatest of the three nos. is : ',num1)
elif num2 > num3 and num2 > num1:
    print('The greatest of the three nos. is : ',num2)
elif num3 > num1 and num3 > num2:
    print('The greatest of the three nos. is :',num3)
else:
    print('any two nos are equal')
```

5

c)

k) Print name of all the students having score >250

```
for name in results:
    if results[name]>250:
        print (name)
```

l) Results [‘C’] = 450

m)

```
sum = 0;cnt =0
for name in Results:
  sum += Results[name]
  cnt+=1
avg = sum/cnt
```

n) Results[‘G’]=290

o) del Results['C']

OR

5

s= “Welcome to python world”

Write output for given statements:

k) print (s.isalpha()) -- False

l) print (s.islower()) -- False

m) print(s.upper()) -- 'WELCOME TO PYTHON WORLD'

n) print(s.capitalize()) -- 'Welcome to python world'

o) print(s.title()) -- 'Welcome To Python World'

SECTION D

e)

J. statistics [1]

K. continue [1]

4

L. else [1]

M. lower() [1]

N. break [1]

f) xi) b**)** **Pseudocode**

xii) c) It calculates sum of digits of a Number N

xiii) a) 0

xiv) b) Will not effect on the result of the algorithm and it will be same as earlier. 4

xv) c) Iterative (Cyclic)

Class: XI Session: 2022-23

Computer Science (083)

Marking Scheme (Theory)

Maximum Marks: 70 Time Allowed: 3 hours

General Instructions:

1. This question paper contains five sections, Section A to E.

2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.
8. All programming questions are to be answered using Python Language only.

SECTION A

1. State True or False 1

   "Antivirus software is type of system software"

   Ans:- False

2. Which of the following is a valid datatype in Python? 1

   (a) For (b) None (c) for (d)while

   Ans: (a) For

3. Which character is used in Python to make a single line comment? 1

   (a) /
   (b) //
   (c) #
   (d) *

   Ans: (c) #

4. Choose the name of the process in which someone's intellectual work is stolen by someone and represented as its own. 1

   (a) Copying
   (b) Plagiarism
   (c) Copy and paste
   (d) Intellectual steal

Ans: (b) Plagiarism

5. Which statement is correct? 1

(a) List is immutable && Tuple is mutable

(b) List is mutable && Tuple is immutable

(c) Both are Mutable.

(d) Both are Immutable

Ans : (b) List is mutable && Tuple is immutable

6. What is the output of this expression 2 * 3 ** 3 * 4 ? 1

(a) 216 (b) 864 (c) 72 (d) Error

Ans: 216

7. What is the output of the following code: 1

```
x = 100
y = 50
print(x and y)
```

(a) True (b)100 (c) False (d)50

Ans: 50

8. Operating system is an example of which type of software? 1

(a) Application software
(b) System software
(c) Utility Software
(d) None of these

Ans: (b) System software

9. Which of the following statement(s) would give an error after executing the following code? 1

```
str1="Hello"          #  Statement  1
print(str1)           # Statement 2
str2=10               # Statement 3
str3=str1+str2              # Statement 4
S=str1*str3           # Statement 5
```

(a) Statement 3
(b) Statement 4
(c) Statement 5
(d) Statement 4 and 5

Ans: (d) Statement 4 and 5

10. What is the most widely used method for e-waste disposal? 1

(a) Burning
(b) Recycling
(c) Landfilling
(d) Disintegration

Ans: (c) Landfilling

11. Find out the type of error in the following code: 1

```
x=x+10
y=x*x
print(x,y)
```

(a) Value error
(b) Name error

(c) Type error
(d) none of above

Ans: (b) Name error

1 2. Find out the output of given code: 1

```
if 1 + 3 == 7:
   print("Hello")
else:
   print("Bye")
```

(a) Bye
(b) Hello
(c) HelloBye
(d) hello Bye

Ans: (a) Bye

1 3. Fill in the blank: 1

Memory can not store the data permanently.

(a) Flash Memory (b) Cache (c) RAM (d)Hard Disk

Ans: (c) RAM

1 4. Convert the following while loop into for loop: 1

```
x=0
while(x <4):
        print(x)
        x = x+1
```

Ans:

```
for i in range(x):
    print(x)
```

15. Choose the correct data type for given example. 1

a=[5,4,9,'a','b']

(a) List
(b) Tuple
(c) string
(d) None of above

Ans: (a) List

16. Python considers the character can be enclosed in triple quotes then choose the option true\false. 1

(a) True
(b) False
(c) can not say
(d) none of above

Ans: (a) True

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct

choice as

(a) Both A and R are true and R is the correct explanation for A

(b) Both A and R are true and R is not the correct explanation for A
(c) A is True but R is False
(d) A is false but R is True

17. Assertion: Recycling is the only solution for the treatment of e-waste, provided it is carried out in an environment friendly manner. 1

Reason: During the recycling process, metals like copper, iron, silicon, nickel and gold are recovered in developing countries.

Ans : (b)

18. Assertion (A): Items in dictionaries are unordered. 1

Reason (R): We may not get back the data in which order we had entered the data initially.

Ans: (b)

SECTION B

19. What will be the output of the following Python program? 2

```
i = 0
while i < 5:
    print(i)
    i += 1
    if i == 3:
        break
    else:
print(0)
```

```
Ans: 0
     1
     2
```

20. Draw the logic circuit for the following equation: 2

A’B’+(AB)’

2 mark for correct logic circuit

OR

Draw the logic symbol of any two basic gates .

1-1 mark for each correct symbol

21. What is the result of executing the following code? 1

```
number = 5
while number <= 5:
    if number < 5:
        number = number + 1
    print(number)
```

(a) The program will loop indefinitely
(b) The value of number will be printed exactly 1 time
(c) The while loop will never get executed
(d) The value of number will be printed exactly 5 times

Ans: (a) The program will loop indefinitely

22. Define nested tuples and write one example to show operation of the nested list. 2

Ans: 1 mark for definition and 1 mark for correct example

23. Write any two possible solutions for special needs students. 2

Ans: 1-1 mark for any correct answer

or

Define plagiarism and why it is a punishable offense?

Ans: Plagiarism is defined as stealing or presenting someone's ideas or words of another author as your own.

- Plagiarism is literally equal to theft and fraud since you are stealing someone's content and pretending that it is your own.
- That is why it is punishable in all universities and considered illegal by the copyright law of different countries.

1 mark for definition ,1 mark for offense

24. Predict the output of the Python code given below: 2

```
L=[2,3,4,6,9,3,8,9)
print(L.index(4))
print(L.count(3))
L.append(L.count(9))
print(L)
```

Ans: 2

2

[2,3,4,6,9,3,8,9,2]

½ mark for each correct answer

OR

Predict the output of the Python code given below:

```
T1=(1,2,3,4,5,6,7,8)
print(T1[0])
print(T1[-1])
print(T1[4-1])
print(T1[2:6:2])
```

Ans: 1

8

4

[3,5]

½ mark for each correct answer

25. Evaluate any two from the following conversions: 2

(a) $(421.5)_{10}=(?)_8$
(b) $(BAD)_{16}=(?)_{10}$
(c) $(1101100)_2=(?)_{16}$

Ans: (a) 645.4

(b)2989

(c) 6C

SECTION C

26. A tuple store marks of a student in 5 subjects .Write a program to calculate the grade of the student as per following details: 3

Average	Grade
>=80	A
80-70	B
70-55	C
55-33	D
<33	E

Partial marking can be given for correct code

27. Proof the Demorgan's Laws with the help of truth tables. 3

Ans: 1 mark for defining laws and 2 mark for truth table

OR

Explain Universal gates with the help of truth tables.

Ans : 1.5 mark for each correct gate

28. ASHA making a project on"Environment cleanliness" and downloading some pages from web browser ,she completed her work in three steps ,so give your justification for following steps if any ethics violates or not : 3

(a) She read a paragraph then she pasted it in her report with the same words.
(b) She downloaded images and pasted them in her report in the form of collage.
(c) She copied the logo of one organization related with cleanliness and pasted on front page of her report.

Ans: (a) and (b) Plagiarism because she is copying someone data and showing as her work

(b) copyright because some organization registered that logo.

1-1 mark for each correct answer

j

29. Write a program that repeatedly asks the user to enter product names and prices. Store all of them in a dictionary whose keys are product names and values are prices. And also write a code to search an item from the dictionary. 3

For example:

If D={'eraser': 10,'pen':25,'pencil':10}

Enter the product you want search: 'eraser'

output: "product found with price: 10"

otherwise

" Not found"

Ans: Partial marking can be given for correct code

30. Write a program for checking whether the given string is palindrome or not . 3

For Example: Entered string :" MoM"

output: Entered string is palindrome string.

Ans: Partial marking can be given for correct code

```
x = "MoM"
w = input(“Entered string:”)
if (x == w):
   print("Entered string is palindrome string")
else:
   print("Not palindrome")
```

OR

Write a program to find the average of the list of the numbers entered through keyboard.

for Example:

L=[2,6,7,8,9,10]

Output:

Average of the numbers is : 7

Ans: Partial marking can be given for correct code

SECTION D

31. Write the output for the following statements on the given string: 5

s= “ interesting facts”

(a) print(s.upper())
(b) print((s.split(‘ ‘))
(c) print(s.find(‘CTS’))
(d) print(s.index(‘e’))
(e) print(s.replace(‘sacts’, ‘idea’))

Ans: (a) INTERESTING FACTS

(b) ‘interesting’, ‘ facts’

(c) -1

(d) 3

(e) interesting idea

1-1 mark for each correct answer

OR

Write a program for checking whether the given character is uppercase ,lowercase,digit ,special symbol or white space.

Ans: Partial marking can be given for correct code

32. Write the most appropriate list method to perform the following task: 5

(a) Add 4th element in the given list
(b) Add element in the last position of the list
(c) Delete 2nd element from the given list
(d) Delete the given element from the given list
(e) Add elements (more than one at the end of the given list.

Ans: (a) insert()

(b) append()

(c) pop()

(d) remove()

(e) extend()

33. Write a program to create a dictionary with the roll number,name and marks of n students in a class and displays the name of students whose marks are greater than 70. 5

Ans: ½ -½ mark for each correct statement

OR

Write a program to print minimum, maximum,sum of keys of numbers dictionary as given below:

numbers= {1:100,2:200,3:300,4:400}

Ans: ½ -½ mark for each correct statement

SECTION E

34. Match the following: 4

Column A	Column B
Plagiarism	(a) Fakers, by offering special rewards or money prize asked for personal information, such as bank account information
Hacking	(b) Copy and paste information from the Internet into your report and then organize it
Credit card fraud	(c) The trail that is created when a person uses the Internet.
Digital Foot Print	(d) Breaking into computers to read private emails and other files

Ans:

Column A	Column B
1. Plagiarism	(b)
2. Hacking	(d)
3. Credit card fraud	(a)
4. Digital foot print	(C)

1-1 mark for each correct answer

35. Explain any 4 built in functions which can be performed over a given tuple. 4

Ans: 1-1 mark for each correct function

OR

Explain any 4 built in functions which can be performed over a given list.

Ans: 1-1 mark for each correct function

Class: XI

Session: 2022-23

Computer Science (083)

Sample Question Paper
(Theory)

Maximum Marks: 70 **Time Allowed: 3 hours**

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A has 18 questions carrying 01 marks each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.
8. All programming questions are to be answered using Python Language only.

SECTION A

1. Antivirus software is _____ software. 1

   a. Application b. Operating System c. System d. Chat

   Ans: (a). Application

2. Which of the following data types is not indexed in Python? 1

(a) list (b) dictionary (c) string (d)tuple

Ans: (b). Dictionary

3. Which character is used in Python to make a multi line comment? 1

(a) /
(b) ‘’’
(c) #
(d) *

Ans: (b) ‘’’

4. Things like these, e.g., online email account, social media account or handle, online shopping account, online photo sharing account, trademarks, own registered domain name etc.. collectively called _____. 1

(a) Online Identity
(b) Online estate
(c) Digital identity
(d) Digital property

Ans: (d). Digital property

5. Which statement is correct? 1

(a) List is immutable && Tuple is mutable

(b) List is mutable && Tuple is immutable

(c) Both are Mutable.

(d) Both are Immutable

Ans: (b) List is mutable && Tuple is immutable

6. What is the output of this expression 5//2 ? 1

(a) 2 (b) 2.5 (c) 2.0 (d) 1

Ans: (a) 2

7. What is the output of the following code: 1

```
x = 100
y = 50
print(x or y)
```

(a) True (b)100 (c) False (d)50

Ans: (b).100

8. Which of the following is not an operating system: 1

a. Windows b. Linux c. Oracle d. DOS

Ans: (c). Oracle

9 Which of the following statement(s) would give an error after executing the following code? 1

```
str1="Hi"                    # Statement
1 print(str1)                # Statement
2
str2=10                      # Statement 3
str3=str1+str2               # Statement 4
```

```
S=str1*str3                    # Statement 5
```

(a) Statement 3
(b) Statement 4
(c) Statement 5
(d) Statement 4 and 5

Ans: (d) Statement 4 and 5

10. Write any two benefits of e-Waste Recycling. 1

Ans: 1. Allows for recovery of valuable precious metals

2. Creates jobs

3. Toxic Waste

Or any other related answers.

11. Find out the type of error in the following code: 1

```
x=x+10
y=x*x
print(x,y)
```

(a) Value error
(b) Name error
(c) Type error
(d) none of above

Ans: (b) Name error

12. Find out the output of given code: 1

```
a=5
b=True
c=a+b
print(c)
```

(a) error
(b) 6
(c) 0
(d) None of these

Ans:(b) 6

13 ASCII code is a 7 bit code for 1

(a)letters (b) numbers (c) other symbols (d)all of these

Ans: (d). All of these

14 Consider the loop given below: 1

```
for i in range ( 10, 2, -3):
        break
```

What will be the final value of i after this loop:

a). 5 b). 10 c). 4 d).-3

Ans: (b) 10

15 Choose the correct data type for given example. 1

```
a=(5,4,9,'a','b')
```

(a) List
(b) Tuple
(c) string
(d) None of above

Ans: (b) Tuple

16 Flash memory is a type of _____ memory. 1

a). Primary b). Secondary c). cache
d).RAM

Ans: (b). Secondary

17. **Assertion:** Developed countries have specifically built facilities for recycling of e-wastes. 1

Reason: Recycling in developing countries often involves manual participation thus exposing workers to toxic substances present in e-wastes. A. Both assertion and reason are true and the reason is the correct explanation of the assertion

B. Both assertion and reason are true but reason is not the correct explanation of the assertion

C.Assertion is true but reason is false

D. Both assertion and reason are false.

Ans: (b).

18. The default separator character of print( ) is _____. 1

a). Space b). tab c). newline d). Dot

Ans: (a) Space

SECTION - B

19. Following code contains an endless loop. Could you find out why? Suggest a solution. 2

```
n=10

result=1

while (n > 0):

    result = result + n**3

    n=n+1

print(result)
```

Ans: For a while loop to terminate, it is necessary that its condition becomes false at one point. But in the above code condition n>0 never false and n is always incrementing.

Possible solution:

1) Instead of n=n+1 we can use n=n-1.

20. Draw the logic circuit for the following equation: 2

y=ab+b'c+c'a'

2 mark for correct logic circuit

O
R

State and verify distributive law.

Ans: 1. X(Y+Z) = XY + XZ

2. X+YZ = (X+Y) (X+Z)

21. D= {‘apple’:15, ‘orange’:20} is a dictionary in python. 2

(i) Write a python statement to add a new element ‘banana’:20 in the dictionary D.

(ii) Write a python statement to change the value of apple to 10 in the dictionary D.

Ans:

(i). D[‘banana’']=20

(ii). D[‘apple’]=10

22. Write the difference between append( ) and extend( ) functions. 2

Ans: append( ) can append only a single element.
extend( ) can append a list of elements.

23. Define plagiarism and why it is a punishable offense? 2

Ans: Plagiarism is defined as stealing or presenting someone's ideas or words of another author as your own.

- Plagiarism is literally equal to theft and fraud since you are stealing someone's content and pretending that it is your own.
- That is why it is punishable in all universities and

considered illegal by the copyright law of different countries.

1 mark for definition ,1 mark for offense

Or

Vikas has to make an online transaction through net banking. He wants to make sure that he is opening the genuine bank website and not some fake page. Write any two ways in which he can identify if his connection to the banking website is secure.

Ans: 2 marks for related answers.

24. Find the output of the following code: 2

```
x, y, z =15, 20, 10
y=x+2
x+=5
z=y
print(x,y,z)
```

Ans: 20 17 17

or

Predict the output of the Python code given below:

```
L=[2,3,4,6,9,3,8,9]
print(L.index(4))
```

print(L.count(3))

L.append(L.count(9))

print(L)

Ans: 2

2

[2, 3, 4, 6, 9, 3, 8, 9, 2]

25 Convert the following:(any two) 2

(a) $(FA\ CE)_{16}=(?)_2$

(b) $(125)_{10}=(?)_8$

(c) $(1110101000.100100)_2=(?)_8$

Ans: (a) F - 1111, A - 1010 , C- 1100 E- 1110

(b) 175

(c) 1650.44

SECTION - C

26. Write a program which replaces all vowels in the string with '*' 3

Ans: Partial marking can be given for correct code

27. Explain Universal gates with the help of truth tables. 3

Ans : 1.5 mark for each correct gate

OR

State and verify the following:

1. Involution law
2. Associative law

Ans: 1 mark for defining laws and 2 marks for truth tables.

28. Discuss in detail about operators with suitable examples. 3

Ans : 1 mark for definition of operator

2 marks for list outing all operators

29. Kavi making a project on"Environment cleanliness" and downloading some pages from web browser ,she completed her work in three steps ,so give your justification for following steps if any ethics violates or not : 3

(a) She read a paragraph then she pasted it in her report with the same words.
(b) She downloaded images and pasted them in her report in the form of collage.
(c) She copied the logo of one organization related to cleanliness and pasted it on the front page of her report.

Ans: (a) and (b) Plagiarism because she is copying someone data and showing as her work

(b) copyright because some organization registered that logo.

1-1 mark for each correct answer

30. What will be the output of the following statements? 3

i) list1 = [12,32,65,26,80,10]

list1.sort( )

print(list1)

ii) list1 = [12,32,65,26,80,10]

sorted(list1)

print(list1)

iii)list1 = [1,2,3,4,5,6,7,8,9,10]

list1[::-2]

list1[:3] + list1[3:]

Ans: i). [10, 12, 26, 32, 65, 80]

ii). [12, 32, 65, 26, 80, 10]

iii). [10, 8, 6, 4, 2]

[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

SECTION - D

31 Explain any 5 built in functions which can be performed over a given tuple. 5

Ans: Ans: 1-1 mark for each correct function

32. Write the output for the following statements on the given string: 5

s= "PYTHON program"

(a) print(s.lower())
(b) print((s.split(' ')))

(c) print(s.isalpha( ))
(d) print(s.index(‘o’))
(e) print(len(s))

Ans: (a). python program

(b). ['PYTHON', 'program']

(c). False

(d). 9

(e). 14

OR

Write a program for checking whether the given character is uppercase ,lowercase,digit ,special symbol or white space.

Ans: Partial marking can be given for correct code

33. 1. Differentiate between clear( ), pop( ) and popitem( ) functions in the Dictionary by giving examples for each. 5

2. What will be the output of following program:

```
aList = [1,2,3,5,6,1,5,6,1]
fDict = {}
for i in aList:
        fDict[i] = aList.count(i)
print (fDict)
```

3. What will be the output of following program:

```
test = {1:'A', 2:'B', 3:'C'}
del test[1]
test[1] = 'D'
```

del test[2]

print(len(test)

Ans: 1.

1 - mark for definition of clear( )

1 - mark for definition of pop( )

1 - mark for definition of popitem( )

2. {1: 3, 2: 1, 3: 1, 5: 2, 6: 2} 1 mark

3. 2 (1 mark)

SECTION - E

34. Match the following: 4

Column A	Column B
Ransomware	Fakers, by offering special rewards or money prize asked for personal information, such as bank account information
Hacking	Crime, in which the attacker blackmails the victim to pay for getting access to the data
Credit card fraud	The trail that is created when a person uses the Internet.
Digital Footprint	Breaking into computers to read private emails and other files

Ans:

Column A	Column B
1. Ransomware	(b)
2. Hacking	(d)
3. Credit card fraud	(a)
4. Digital footprint	(c)

1-1 mark for each correct answer

35 Write the most appropriate list method to perform the following task: 4

(a) Add 5th element in the given list
(b) Add element in the last position of the list
(c) Reverse the items of the list
(d) Delete the given element from the given list

Ans: 1-1 mark for each correct function

or

Discuss in detail the following:

a). if - else statement

b). Differentiate between break and continue statements

c). for loop

Ans: 1 mark for correct definition of if-else statement

1 mark for correct definition of break statement

1 mark for correct definition of continue statement

1 mark for correct definition of for loop statement