



ANGEL'S PUBLIC SCHOOL

SAMPLE PAPER
PRE-BOARD – II SESSION 2020 – 21
CLASS – XII SUBJECT : COMPUTER SCIENCE

TIME : 3 HOURS

M.M = 70

General Instructions:

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

Part-A (Section-I) Attempt any 15 Questions

1. Which of the following is incorrect?
 - a. sys.platform
 - b. sys.readline
 - c. sys.path
 - d. sys.arg
2. What will the following function return?

```
def addEm(x, y, z):  
    print(x + y + z)
```
3. What does the rmdir() method do?
4. Which of the following is an invalid statement?
 - a. a, b, c = 1000, 2000, 3000
 - b. a = b = c = 1,000,000
 - c. a b c = 1000 , 2000 , 3000

d. abc = 1,000,000

5. To open a file c:\ss.txt for appending data, we use

- a. file = open("c:\ \ss.txt", "a")
- b. file = open("c:\ \ss.txt", "rw")
- c. file = open(r"c: \ss.txt", "a")
- d. file=open(file="c:\ss.txt","w")
- e. file = open(file = "c:\ \ss.txt", "w")
- f. file =open("c:\res.txt")

- a. c,d
- b. b,d
- c. a, c
- d. a, d

6. What is the Python search path?

7. Which of the following is not an operating system?

- a. GNU
- b. Firefox
- c. BOSS
- d. Linux

8. Small bits of data stored as text files on a browser.

- a. Webpage
- b. Web Browser
- c. Firewall
- d. Cookies

9. Which of the following is NOT an intellectual property?

- a. A poem written by a poet
- b. An original painting made by a painter
- c. Trademark of a Company
- d. A remixed song

10. Function range (10,5, -2) will yield an iterable sequence like _____

- a. [10,8,6]
- b) [6,8,10]
- c) [9,7,5]
- d) [5,7,9]

11. What will the following query do?

```
import mysql.connector
db = mysql.connector.connect(.. )
cursor = db.cursor( )
db.execute("SELECT * FROM staff WHERE person_id in
{ }".format((1,3,4)))
db.commit( )
db.close( )
```

12. What will be the result of following statement with following hierarchical structure of package Pkt1

- i. _int_.py
- ii. modul1
- iii. modul2
- iv. modul3

module1 has functions- hello (), printme
() module2 has functions- countme(),
printit () module3 has functions- this(),
that ()

```
import Pkt1  
module1.hello ()
```

give reasons for your answers.

13) Fill in the blanks:

- i) A can be a name, word, phrase, symbol, logo, design, or picture. It is a way for a business to help people to identify the products that the business makes from products.
- ii) IT Amendment Act, 2008 came into the force from the year

14) Write the output of the SQL command:

```
select round(3849.88,-2);  
a.3849  
b.3850  
c. 3849.880  
d. 3800
```

15) Name the network device that takes a weak and corrupted signal and regenerates it.

16) Name the switching technique used for voice communication.

17) Which of the following is the fastest media of data transfer?

- a) Co-axial Cable b) Twisted pair Cable c) Fiber Optic d) None of these

18) Consider the following statement. What type of statement is this?

```
DROP TABLE school;
```

- a) DDL b) DML c) DCL d) TCL

19) Can you suggest a real-life application for input / output restricted queues?

20). What do you understand by the terms Candidate Key and Cardinality of relation in the relational database

21). What is overflow situation?

Section-II Case Study based questions

22. Consider the following tables GAMES and PLAYER and answer (b) and (c) parts of this question:

Table: GAMES

GCode	Game Name	Type	Number	Prize Money	Schedule Date
101	Carom Board	Indoor	2	5000	23-Jan-2004
102	Badminton	Outdoor	2	12000	12-Dec-2003
103	Table Tennis	Indoor	4	8000	14-Feb-2004
105	Chess	Indoor	2	9000	01-Jan-2004
108	Lawn Tennis	Outdoor	4	25000	19-Mar-2004

Table: PLAYERS

PCode	Name	GCode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

- What do you understand by primary key and candidate keys?
- Write the SQL command for the following statement: To display the name of all GAMES with their GCodes.
- Write the SQL command for the following statement:
To display details of those GAMES which are having PrizeMoney more than 7000.
- Write the SQL command for the following statement:
To display the content of the GAMES table in ascending order of Schedule Date.
- Write the SQL command for the following statement:
To display sum of PrizeMoney for each type of GAMES.

23) Complete the following instructions to delete the details of a customer from a which contain sl.no, customer name, city and amount.

```
import _____
record = list ()
custname = input ("Please enter a customer name to delete:")
with open ('cust.csv', 'r') __:
data = csv.reader (f)
for row in data: record.append (row) f or field in row:
    if f ield == custname:
        record .___

with open ('cust.csv', 'w') as f:
    writer = _____
    writer ._____ _ (record)
```

Part-B (Section-I)

24. Write a program that rotates the elements of a list so that the element at the first index moves to the second index, the element in the second index moves to the third index, etc., and the element in the last index moves to the first index.

25. What is Phishing? Explain with examples.

26. Find the error (s) in the following code and correct them:

```
def describe intelligent life form ():
    height = raw_input ("Enter the height")
    rawinput ("Is it correct?")
    weight = raw_input ("Enter the weight")
    favorite-game = raw_input ("Enter favorite game")
    print ("your height", height, 'and weight', weight print "and your favorite game is", favoritisms,
':')
```

27. Differentiate between fruitful functions and non-fruitful functions.

28. Rewrite the f ollowing code in python after removing all error (s). Underline each correction done in the code.

```
STRING = "" HAPPY NEW YEAR "
f or S in range [0,14]:
print STRING (S)
STRING = STRING.lower
```

29. What is the possible outcome (s) executed from the following code? Also, specify the maximum and minimum values that can be assigned to a variable COUNT. _____
Assume that the required modules are imported.

```
txt = "CBSEONLINE"  
COUNT = random.randint (0,3)  
c = 9  
while txt [c] != 'L':  
    print (txt [c] + txt [COUNT], end = '*')  
    COUNT = COUNT +1  
    c = c-1
```

- i) EC * NB * IS *
- ii) NS * IE * LO *
- iii) EB * NS * IO *
- iv) ES * NE * IO *

30. Mr. Mittal is using a table with the following columns: Name, Class, Streamed, Stream_name. He needs to display the names of students who have not been assigned any stream or have been assigned stream_name that ends with "computers . He wrote the following command, which did not give the desired result.

```
SELECT Name, Class FROM Students  
WHERE Stream_name = NULL OR Stream_name = "% computers";
```

Help Mr. Mittal to run the query by removing the error and write a correct query.

31. Consider a table structure as follows:

Employee
Emp_Id Empname
Dept
Age.

Write Python code to create the above table and then create an index and Emp_Id.

32. Consider the following SQL string: "##### Python is a programming language #####". Where each '#' character indicates an space. Write commands to display:

- a. "Python is a programming language" without any space
- b. "Programming"

33. Find and write the output of the following Python code:

```
def Mycode (Msg, ch):
    s = ""
    for cnt in range (len (Msg)):
        if Msg [cnt]>= 'P' and Msg [cnt] <= 'S':
            s = s + Msg [cnt] .lower ()
        else:
            if Msg [cnt] == 'N' or Msg [cnt] == 'n' or Msg [cnt] == ' ':
                s = s + ch
            else:
                if (cnt% 2 == 0):
                    s = s + Msg [cnt] .upper ()
                else:
                    s = s + Msg [cnt-1]
    print (s)
Mycode ("Input Raw", "@")
```

Section-II

34. Create file phonebook.dat that stores the details in the following format:

Name Phone

Jivin 86666000

Kriti 1010101

Obtain the details from the user.

35. Aditi has used text editing software to type some text. After saving the article as WORDS.TXT, she realized that she has wrongly typed alphabet J in place of the alphabet I everywhere in the article.

Write a function definition for JTOI () in python that would display the corrected version of entire of the file WORDS.TXT with the alphabets "J" to be displayed as an alphabets "I" on screen:

Example:

If Aditi has stored the following content in the file WORDS.TXT:

WELL, THJS JS A WORD BY JTSELF. YOU COULD STRETCH THJS TOBE A SENTENCE

The function JTOI () should display the following content:

WELL, THIS IS A WORD BY ITSELF. YOU COULD STRETCH THIS TOBE A SENTENCE

36. Write the outputs of the SQL queries (i) to (iii) based on the relations Products and Suppliers given below:

Table: **PRODUCTS**

PID	PNAME	QTY	PRICE	COMPANY	SUPCODE
101	DIGITAL CAMERA 14X	120	12000	RENIX	S01
102	DIGITAL PAD 11i	100	22000	DIGI POP	S02
104	PEN DRIVE 16 GB	500	1100	STOREKING	S01
106	LED SCREEN 32	70	28000	DISPEXPERTS	S02
105	CAR GPS SYSTEM	60	12000	MOVEON	S03

Table: **SUPPLIERS**

SUPCODE	SNAME	CITY
S01	GET ALL INC	KOLKATA
S03	EASY MARKET CORP	DELHI
S02	DIGI BUSY GROUP	CHENNAI

- i. `SELECT SUPCODE, SUM (PRICE) FROM PRODUCTS GROUP BY SUPCODE;`
- ii. `SELECT PRICE * QTY AS AMOUNT FROM PRODUCTS WHERE PID = 104;`
- iii. `SELECT PNAME, SNAME FROM PRODUCTS NATURAL JOIN SUPPLIERS WHERE QTY > 100;`

37. a) A linear stack called Books contains the following information:

-Book number, name of the book, and cost of the book

Write PUSH (Books, N) method in python to add N book details each containing the above-mentioned information. Displays the stack if it has at least one element, otherwise display an appropriate error message.

b) From the program code given below, identify the parts mentioned below:

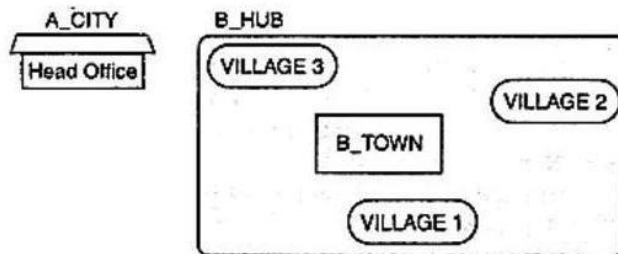
1. `def processNumber (x):`
2. `x = 72`
3. `return x + 3`
4.
5. `y = 54`
6. `res = processNumber (y)`

Identify these parts: function header, function call, arguments, parameters, function body, main program.

Section-III

38. Uplifting Skills Hub India is a knowledge and skill community that has an aim to uplift the standard of knowledge and skills in society. It is planning to set up its training centers in multiple towns and villages pan India with its head offices in the nearest cities. They have created a model of their network with a city, a town, and 3 villages as follows.

As a network consultant, you have to suggest the best network related solutions for their issues / problems raised in (i) to (iv) keeping in mind the distance between various locations and given parameters.



The shortest distance between various locations

Village1 to B_town	2 km
Village2 to B_town	1 km
Village3 to B_town	1.5 km
Village1 to Village2	3.5 km
Village1 to Village3	4.5 km
Village2 to Village3	2.5 km
A_City Head Office to B_Town	25 km

The number of computer installed at various locations is as follows:

B_town	120
Village1	15
Village2	10
Village3	15
A_City Head Office	6

NOTE: In these villages, there are community centers, in which this organization has been given a room under the training center to install computers. The organization has received financial support from the country and top IT companies.

- i. Suggest the most appropriate location for the server in B_HUB (out of 4 locations) to get the best and effective connectivity. Justify your answer.
- ii. Suggest the best-wired medium and draw the cable layout (location to location) to efficiently connect various locations within the B_HUB.
- iii. Which hardware device will you suggest connecting all the computers within each location of B_HUB?
- iv. Which service / protocol will be most helpful to conduct live interactions of Experts from the Head Office and people at all locations of B_HUB?

39. Consider the following tables STORE and SUPPLIERS and answer (a) and (b) parts of this question:

Table: STORE

ItemNo	Item	Scode	Qty	Rate	LastBuy
2005	Sharpener Classic	23	60	8	31-Jun-09
2003	Ball Pen 0.25	22	50	25	01-Feb-10
2002	Gel Pen Premium	21	150	12	24-Feb-10
2006	Gel Pen Classic	21	250	20	11-Mar-09
2001	Eraser Small	22	220	6	19-Jan-09
2004	Eraser Big	22	110	8	02-Dec-09
2009	Ball Pen 0.5	21	180	18	03-Nov-09

Table: SUPPLIERS

Scode	Sname
21	Premium Stationers
23	Soft Plastics
22	Tetra Supply

a. Write SQL commands for the following statements:

- i. To display details of all the items in the STORE table in ascending order of LastBuy.
- ii. To display ItemNo and Item name of those items from STORE table whose Rate is more than 15 Rupees.
- iii. To display the details of those items whose supplier code (Scode) is 22 or Quantity in Store (Qty) is more than 110 from the table Store.

iv. To display the minimum rate of items for each supplier individually as per Scode from the table STORE.

b. Give the output of the following SQL queries:

i. `SELECT COUNT (DISTINCT Scode) FROM STORE;`

ii. `SELECT Rate * Qty FROM STORE WHERE ItemNo = 2004;`

iii. `SELECT Item, Sname FROM STORE S, Suppliers P WHERE S.Scode = P.Scode AND ItemNo = 2006;`

iv. `SELECT MAX (LastBuy) FROM STORE;`

40. A binary file "GIFTS.DAT" has a structure

{"Gift_ID": value, "Name": value, "Remarks": value, "Price": value}

i. Write a function BUMPER () in Python to read each record of a binary file GIFTS.DAT, find and display details of those gifts, which has comments as "ON DISCOUNT".

ii. Write a function TRANSFER () in python, that would copy all those records which are having price greater than 500 to G_COPY.DAT

iii. Write a program that depends upon the user's choice, either pushes or pops an element in a stack.

