SECTION A
ANSWER ALL QUESTIONS

QUESTION A1 (Total: 10 x 1 = 10 Marks)

This section has ten questions

Mark the following as True or False.

1. Python shell of the IDLE is suitable for writing re-usable Python program.
2. All type of repetition logic can be implemented using *for* loop.
3. The following Python code will not print anything on screen.

```
n = 7
while n < 0:
    print(n)
    n =  n – 1
```

QUESTION A2 (Total: 10 x 1 = 10 Marks)

This section has ten questions

Answer question 2 to 4 based on the following scenario.

An airline offers two free tickets to Brisbane for all its frequent flyers from London. In order to be eligible for the offer, a frequent flyer must have travelled more than 70,000KM. The offer also includes a free stay in hotel for 4 days and 3 nights if the frequent flyer had travelled more than 90,000KM. Assume that a Python program has to be written to identify all frequent flyers who are eligible for these offers.

2. What are the inputs required in this program?
   A. Total price of tickets purchased and
   B. Destination and total price of tickets purchased
   C. Destination and distance travelled
   D. Distance travelled

3. What kind of *if* statements are required in this program to check whether the travelers are eligible for free tickets and hotel stay?
   A. Nested *if* statements
   B. Single *if* statements
   C. Two-way *if* statements
   D. Multi-way *if* statements

4. Which of the following *if* statements can be considered in this program?
   A. `if (totTickets > 70000 and destination = 'London'):`

B. `if (totTickets >= 90000 and destination == 'Brisbane'):`
C. `if (distanceTravelled > 70000 and < 90000):`
D. None of above is suitable

QUESTION A3 (Total: 20 Marks)

In this section, you will be given a problem statement and you have to pick the Python instructions to solve the problem from the table or figure given.

Example:

A programmer would like to write a Python program to get N integers from user and store them in a list. The program has to then process this list to find the frequency of number five. The programmer has been provided with a list of code snippets as shown in Figure QA3. The programmer is required to pick the relevant Python instructions from Figure QA3 and arrange them in a correct order to accomplish the task.

count = count + 1	print(count)	N.sort()	numbers.append()
if i % 2 == 0:	numbers = []	sort.numbers()	for i in range(N):
for num in numbers:	for N in numbers:	num = int(input('Enter a number:'))	
input = int('Enter a number:')		print('num')	print(number)
for in range(10):	N = int(input('Enter value of N:'))		if i/2 == N:
numbers.append(num)	if N % num == 0:	print('N')	if i == 5:
for i in range(N):	for i in range(num):	count = 0	if num > N

Figure QA3

QUESTION A4 (Total: 20 Marks)

APU wants to write a Python program for grading the student marks. The grading is based on the following table:

Mark Range	Grade
80 – 100	A
70 – 79	B
60 – 69	C
50 – 59	C-
0 – 49	F

APU would like to recruit a Python programmer to maintain this program and has decided to test his/her ability during the interview session. The job applicant was provided an incomplete version of the program as follows:

```
1.     ____________________________________, [-1 to end]: '))
2.     while (_________):
3.          if ( mark ________) and ( mark _____________ ):
4.             grade = "A"
5.          elif (_________):
6.             grade = "B"
7.          elif (_________):
8.             grade = "C"
9.          elif (_________):
10.            grade = "C-"
11.         else:
12.            grade = "F"
13.         print("Grade = ",___________)
14.         ____________________________________, [-1 to end]: '))
```

a. Identify the missing code snippets and write the full program. (10 marks)

b. Assume that the program has to be amended so it prompts for the number of students during the very beginning of execution. Rewrite the program so it can now prompt for number of students in the beginning and repeat the calculation accordingly. (10 marks)

QUESTION B1 (Total: 20 Marks)

Following Python program is intended to prompt for 9 favourite movies and write them into *movies.txt* text file. It contains some syntax errors that need to be corrected. Correct those errors and rewrite the program.

```
save('fi', fav_mov.txt)
i = 1
while (start=1; stop=10; step=1):
fmov(Enter your fav movie:
fwrite('fmov' + \n)
     i = i + 1
```

```
close(fi.txt)
```

QUESTION B2 (Total: 20 Marks)

```
def mystery(t=['Lab Test', 'Exam', 'Exam'],a=0, b=1, c=-1):
    s = ['XML', 'FSD']
    s.extend(t)
    s.insert(a,'WDT')
    s.insert(b, 'DMP')
    s.insert(c, 'ICP')
    print(s)
```

What will be the output on the screen when the above Python function is called as below? Explain your answer.

a. `mystery()` (10 marks)

b. `mystery(['Assignment', 'Project'],-1,0)` (10 marks)