SPRINGFIELD SECONDARY SCHOOL

"BETTER SELF FOR BETTER TOMORROW"

Preliminary Examination 2022

COMPUTING **7155/02**

Paper 2

Secondary 4 Express / 5 Normal Academic

MARKING GUIDE FOR TEACHERS

2 hours 30 minutes

MAXIMUM MARK : 50

This document consists of 7 printed pages.

Task 1

1 =MID(A4,2,3) [2]

Formula for entire column ----- [1]

2 =SUM(E4:E11) ----- [1] [1]

3 =SUMIF(C4:C11,"Electric",E4:E11) ----- [1] [1]

4 =(D4-VLOOKUP(C4,$A$19:$B$21,2,FALSE))*E4 [2]

Correct VLOOKUP search ----- [1]
Correct formula for calculating Revenue ----- [1]

5 =IF(F4=MAX($F$4:$F$11),"1st","") [2]

Correct formula and “1st” indicated on the correct cell ----- [1]
All other cells empty ----- [1]

6 =$F4=MIN($F$4:$F$11) [2]

Correct row highlighted
Correct rule description ----- [1]
Correct cell range selected ----- [1]

Task 2

7 [2]

```
weight = float(input("Enter the weight of baggage: "))
while weight > 50:  #1mark
   weight = float(input("Passengers are not allowed to
   carry  more than 50 kg of baggage. Please re-enter the
   weight of baggage: "))   #1mark
if weight >= 20 and weight <= 30:
  cost = (weight - 20) * 20
elif weight > 30:
  cost = 200 + (weight - 30) * 25
else:
  cost = 0
print("The excess baggage cost is $", cost)
```

8 [3]

```
member = input("Are you a member with the airline? (Y/N):
") #1 mark
weight = float(input("Enter the weight of baggage: "))

while weight > 50:
    weight = float(input("Passengers are not allowed to
carry more than 50 kg of baggage. Please re-enter the
weight of baggage: "))
if weight >= 20 and weight <= 30:
  cost = (weight - 20) * 20
elif weight > 30:
  cost = 200 + (weight - 30) * 25
else:
  cost = 0
if member == 'Y':
  cost = cost * 80/100 #1 mark
  print("Thank you for being a member of ABC airline.")
#1 mark

print("The excess baggage cost is $", cost)
```

9 [5]

```
passenger = int(input("Enter the number of passenger: "))
#1 mark
totalweight = 0 #
totalcost = 0 #1 mark

for i in range(passenger): #1 mark
  member = input("Are you a member with the airline? (Y/N):
")
  weight = float(input("Enter the weight of baggage: "))
  while weight > 50:
    weight = float(input("Passengers are not allowed to
carry more than 50 kg of baggage. Please re-enter the
weight of baggage: "))
  if weight >= 20 and weight <= 30:
    cost = (weight - 20) * 20
  elif weight > 30:
    cost = 200 + (weight - 30) * 25
  else:
    cost = 0
  if member == 'Y':
    cost = cost * 80/100
    print("Thank you for being a member of ABC airline.")
  print("The excess baggage cost is $", cost)
  totalweight = totalweight + weight #
  totalcost = totalcost + cost #1 mark
print("The total weight of baggage for the flight is {}kg
and the total excess baggage cost collected is
${}.".format(totalweight, totalcost)) #1 mark
```

Task 3

10 [10]

```
import math #1) random

while true: #2)True
  dice_list = []
  for i in range(2):
    input("Player {}, press enter to roll the three
dice".format(i+1))
    dice = {0}*3 #3)[0]
    for j in range(3):
      dice[j] = random.randint(0,6) #4) (1,6)
    dice_list.eppend(dice) #5) append
    print("Player {}, dice = {}" .format(i,dice)) #6) i+1

  if max(dice_list[0]) > max(dice_list[1]):
    print("Player 1 wins!")
  elif max(dice_list[0]) = max(dice_list[1]): #7) ==
    print("No winners!")
  elif: #8) else
    print("Player 2 wins!")

  play = input("Play again? (Y/N): ").isupper()#9) .upper()
  if play == 'N':
    print("Thank you for playing, goodbye!")
    break: #10) remove ":"
```

** 1 mark for each correction.*

Task 4

11 MYCARPLATE1 [9]

User defined function – [1]
Checksum calculation – [4]
Checking / assigning of suffix – [2]
Return value – [1]
Call for sample execution – [1]

Sample solution:

```
def carplate(plate):
  weightsum = ord(plate[2]) - 65
  number = plate[3:]
  for i in number:
    weight = int(i)*9
    weightsum += weight
  checksum = weightsum%26
  suffix = chr(checksum+65)
  return suffix

print(carplate('SVA123'))
print(carplate('SVM9918'))
```

12 MYCARPLATE2 [3]

Updated weight – [3]

Sample solution

```
def carplate(plate):
  count = 0
  weightsum = ord(plate[2]) - 65
  number = plate[3:]
  for i in number:
    weight = int(i)*(4-count)
    weightsum += weight
    count += 1
  checksum = weightsum%26
  suffix = chr(checksum+65)
  return suffix

print(carplate('SVZ6513'))
```

13 MYCARPLATE3 [8]

Check if input consist of a suffix – [3]
Check if the input suffix matches the calculated one – [3]
Output the validity of the car license plate – [2]

Sample solution

```
def carplate(plate):
  count = 0
  weightsum = ord(plate[2]) - 65
  if plate[-1].isalpha():
    number = plate[3:len(plate)-1]
  else:
    number = plate[3:]
  for i in number:
    weight = int(i)*(4-count)
    weightsum += weight
    count += 1
  checksum = weightsum%26
  suffix = chr(checksum+65)
  if plate[-1].isalpha():
    if suffix == plate[-1]:
      print("Car license plate is valid.")
    else:
      print("Car license is plate invalid.")
  return suffix

print(carplate('SVZ6513R'))
```