PART B **[30 Marks]**

A pet shop named OwnAPet wants to have a computerized system to calculate and print payroll information for its 5 employees.

INSTRUCTIONS:

Write a C++ payroll program for the pet shop owner. Your program should be able to do the following tasks:

(a) The program should define two arrays:
- A 1D array which is used to store the list of employee IDs.
- A 2D array which consists of four columns. The first column is used to store the list of hours worked, second column for storing the list of rates of pay, third column is for storing the list of regular pays, the fourth column for storing the list of overtime pays and the fifth column is for storing the list of total pays.

(b) The program will read the data of the employees consisting of the employee *IDs*, *hours worked* and *rates of pay* from the keyboard.

(c) The program will display the payroll information of the employees onto the screen.

(d) Besides function **`main()`**, the program needs to define four (4) other functions as described in Table 4. You should use appropriate arguments (based on Table 4) for each function.

(e) Figure 3 shows an example run of the program with the keyboard inputs whereas Table 5 shows the assessment criteria.

Write your full program in the blank space provided in page 18.

Table 4: Description for functions

Function	Description
`displayLine()`	To display lines using 105 characters of '-' onto the screen using a loop.
`getData()`	To get the data of the employees from the keyboard. For each employee, the user needs to enter the *ID, hours worked* and *the rate of pay* of the employee. The function should accept a 1D array of *empID* and 2D array *empRecord* as its arguments.
`calculatePayroll()`	To calculate the regular pays, overtime pays and total pays of the employees. For each employee, the calculation is done as follows: i) Regular pay = hour x rate ii) The overtime will be given if the employee hours worked exceeds 40 hours and calculated based on: Overtime = exceed hours x 1.5 x rate iii) Total pay = regular pay + overtime The function should accept a 1D array of *empID* and 2D array *empRecord* as its arguments.
`printData()`	To print the payroll information of the employees onto the screen. The function should accept a 1D array of *empID* and 2D array *empRecord* as its arguments.
`highestOvertime()`	To search for the employee who has the highest overtime pay. The function should display the highest overtime pay, employee ID and the employee overtime pay onto the screen. The function should accept a 1D array of *empID* and 2D array *empRecord* as its arguments

```
Payroll Program
ID: 1
Hours worked:45
Rate of Pay (RM per hour):3
ID: 2
Hours worked:40
Rate of Pay (RM per hour):2
ID: 3
Hours worked:20
Rate of Pay (RM per hour):1
ID: 4
Hours worked:55
Rate of Pay (RM per hour):3
ID: 5
Hours worked:41
Rate of Pay (RM per hour):2

Payroll Final Report
--------------------------------------------------------------------------
ID      HOURS   RATE(RM)    REGULAR PAY (RM)    OVERTIME (RM)       TOTAL (RM)
--------------------------------------------------------------------------
1       45      3           120                   22.5                142.5
2       40      2           80                    0                   80
3       20      1           20                    0                   20
 4       55      3           120                   67.5                187.5
5       41      2           80                    3                   83

Staff 5 have the highest pay overtime of RM67.5

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Press any key to continue . . .
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Figure 3: Example run on screen