



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

PEPERIKSAAN AKHIR SEMESTER I SESI 2010/2011

NAMA KURSUS : PENGATURCARAAN KOMPUTER
KOD KURSUS : BTI 1022/BTI 10202
PROGRAM : 2 BDD
TARIKH PEPERIKSAAN : NOVEMBER/DISEMBER 2010
JANGKA MASA : 2 JAM
ARAHAN :

1. JAWAB SEMUA SOALAN DI BAHAGIAN A

ANSWER ALL QUESTIONS IN PART A

2. JAWAB DUA (2) DARIPADA TIGA (3) SOALAN DI BAHAGIAN B

ANSWER ANY TWO (2) OF THREE (3) QUESTIONS IN PART B

KERTAS SOALAN INI MENGANDUNGI SEPULUH (10) MUKA SURAT

BAHAGIAN A: JAWAB SEMUA SOALAN

- S1** Terdapat lima (5) kesalahan sintaks di dalam aturcara yang berikut. Salin dan perbetulkan setiap satunya.

```
#include <studio.h>

int main();

    int start = 10;
    long delay = 1000;
    do
    {
        printf(" %d/n",start);
        start--
        for (delay = 0, delay < 100000; delay++);
    }
    While (start > 0);

    printf("Zero!\nKaboom!\n");
    return (0);
}
```

(10 markah)

- S2** Tulis keluaran yang dihasilkan oleh aturcara berikut:

```
#include<stdio.h>
int main()
{
    int i, j, k;
    printf("First: \n");

    i = 5;
    while (i < 10) {
        i++;
        printf("%d",i) ;
    }
    printf("\nSecond: \n");

    for (j = 10; j > 5; j--) {
        printf("%d", 16-j);
    }
    printf("\nThird: \n");

    for (k = 6;k <= 10; k++) {
        printf("%d",k);
    }
    return 0;
}
```

(15 markah)

S3 Tulis keluaran pelaksanaan aturcara berikut:

```
#include<stdio.h>

int conditionals(int a,int b);

int main(void)
{
    int result;

    result=conditionals(0,0);
    printf("%d\n",result);

    result=conditionals(-2,5);
    printf("%d\n",result);

    result=conditionals(4,-1);
    printf("%d\n",result);

    return 0;
}

int conditionals(int a, int b){
    if (a > 0 || b < 0) {
        return 100;
    }
    else if ( a + b > 0) {
        return 200;
    }
    else {
        return 300;
    }
}
```

(15 markah)

BAHAGIAN B: JAWAB DUA (2) DARIPADA TIGA (3) SOALAN YANG BERIKUT

S4 Tulis satu aturcara C yang melaksana tugas berikut:

(a) Menyusun tiga (3) nombor bulat secara menaik, dan

(b) Mengira bilangan nombor genap dan ganjil barisan nombor tersebut.

Kemasukan daripada papan kekunci.

Contoh perlaksanaan aturcara:

Input: 13 10 5

Output: 5 10 13
Even numbers: 1
Odd numbers: 2

(30 markah)

S5 Tulis satu aturcara C yang mengira cukai bandar (*city tax*) sebesar 1.75% daripada pendapatan kasar setiap tahun (*gross annual income*). Mengikut undang-undang cukai, cukai dikenakan bagi pendapatan melebihi RM10,000 (*city income tax*) dan bagi pendapatan kurang RM 10,000, cukai dikecualikan. Gunakan kod *pseudo* yang berikut sebagai panduan menulis aturcara.

Start

Display "A program that computes city income tax"

Set want_to_continue is equal to 'y' / 'y' refer to yes*/*

begin_while

display "Enter gross income:"

read gross_income

if gross_income is greater than RM10,000

*compute city_tax=0.0175 * gross_income*

else

set city_tax to 0

end_if

display city_tax

display "Do you want to continue? (y/n):"

read want_to_continue

End_while

End

(30 markah)

- S6** Satu persamaan kuadratik dengan parameter a , b , dan c ditunjukkan seperti yang berikut:

$$ax^2 + bx + c = 0, \quad a \neq 0$$

Tulis satu aturcara C yang membaca tiga kemasukan a , b , dan c daripada pengguna dalam satu barisan. Kirakan punca-punca nombor nyata daripada persamaan tersebut jika ada. Gunakan carta alir di dalam **RAJAH S6** sebagai panduan menulis aturcara. (Petunjuk: Fungsi-fungsi di dalam perpustakaan `math.h` boleh digunakan).

(30 markah)

PART A: ANSWER ALL QUESTIONS

Q1 There are five (5) syntax errors in the program. Spot and correct each of them.

```
#include <studio.h>

int main();

    int start = 10;
    long delay = 1000;
    do
    {
        printf(" %d/n",start);
        start--
        for (delay = 0, delay < 100000; delay++);
    }
    While (start > 0);

    printf("Zero!\nKaboom!\n");
    return (0);
}
```

(10 marks)

Q2 What outputs are produced by the following code:

```
#include<stdio.h>
int main()
{
    int i, j, k;
    printf("First: \n");

    i = 5;
    while (i < 10) {
        i++;
        printf("%d",i );
    }
    printf("\nSecond: \n");

    for (j = 10; j > 5; j--) {
        printf("%d",16-j);
    }
    printf("\nThird: \n");

    for (k = 6;k <= 10; k++) {
        printf("%d",k);
    }
    return 0;
}
```

(15 marks)

Q3 What outputs are generated by the following code:

```
#include<stdio.h>

int conditionals(int a,int b);

int main(void)
{
    int result;

    result=conditionals(0,0);
    printf("%d\n",result);

    result=conditionals(-2,5);
    printf("%d\n",result);

    result=conditionals(4,-1);
    printf("%d\n",result);

    return 0;
}

int conditionals(int a, int b){
    if (a > 0 || b < 0) {
        return 100;
    }
    else if ( a + b > 0) {
        return 200;
    }
    else {
        return 300;
    }
}
```

(15 marks)

PART B: ANSWER ANY TWO (2) OF THREE (3) QUESTIONS

Q4 Write a C program that performs the following task:

(c) sorts three (3) different integer numbers in an ascending order, and

(d) counts the number of the even and odd integers in the row.

Inputs are entered from the keyboard.

Example of the program execution:

Input: 13 10 5

Output: 5 10 13
Even numbers: 1
Odd numbers: 2

(30 marks)

Q5 Write a program to compute city tax, as 1.75% of gross annual income. According to tax laws, income above RM10,000 is subject to city income tax and income up to RM 10,000 is exempted. Use the pseudo code below to guide you to write the code.

Start

Display "A program that computes city income tax"

Set want_to_continue is equal to 'y' / 'y' refer to yes */*

begin_while

display "Enter gross income:"

read gross_income

if gross_income is greater than RM10,000

*compute city_tax=0.0175 * gross_income*

else

set city_tax to 0

end_if

display city_tax

display "Do you want to continue? (y/n):"

read want_to_continue

End_while

End

(30 marks)

Q6 A quadratic equation with parameters a, b, and c is shown below:

$$ax^2 + bx + c = 0, \quad a \neq 0$$

Write a C program that reads the three inputs from the user, a,b, and c in a row then find the real roots for the quadratic equation formed from these three (3) inputs, if any.

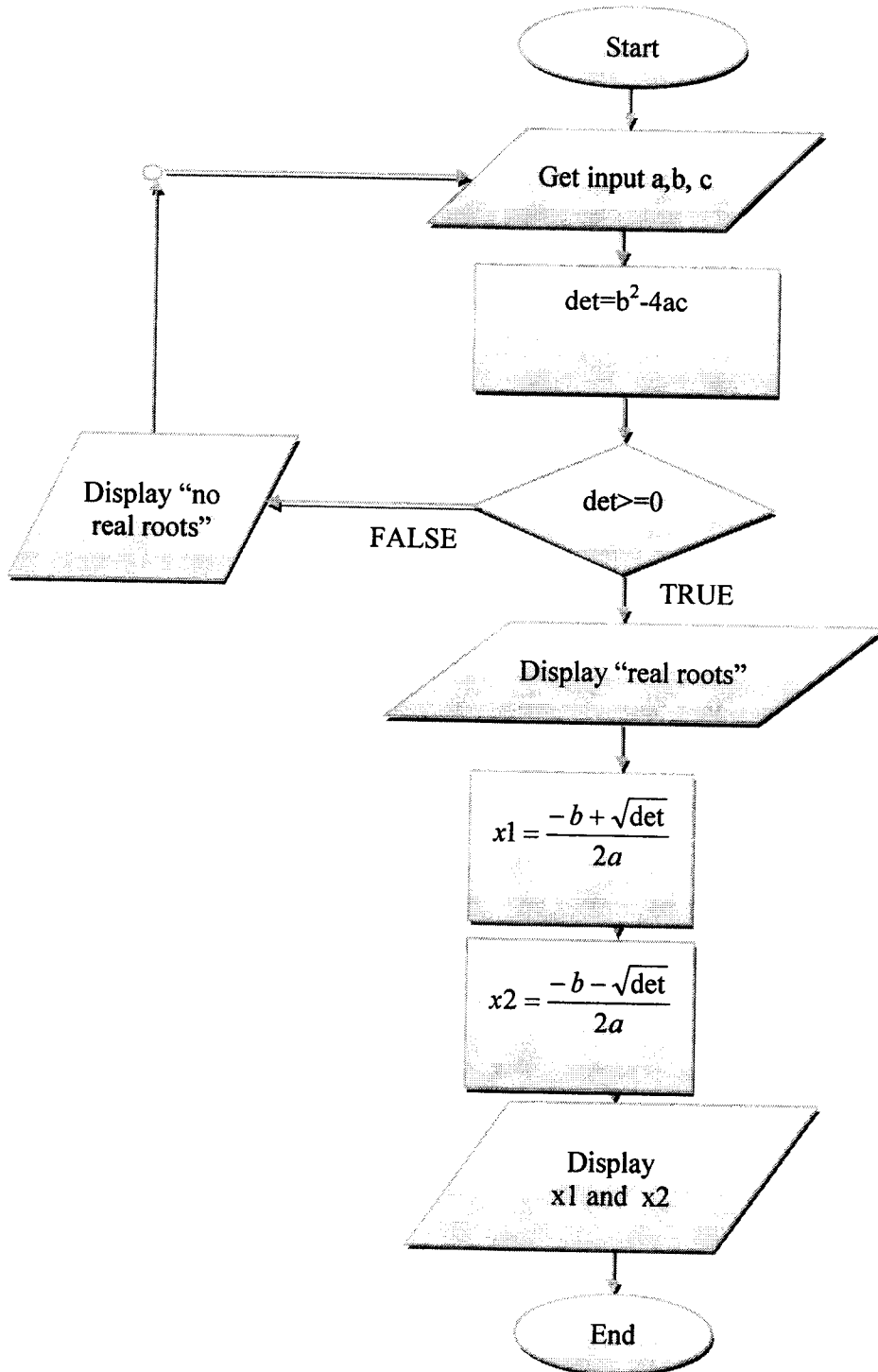
Use the flow chart provided in **RAJAH S6** to guide you to write the code. (Hint: functions from math.h library might be useful).

(30 marks)

PEPERIKSAAN AKHIR

SEMESTER / SESI : SEM I / 2010/2011
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RAJAH S6