UNIVERSITI TUN HUSSEIN ONN MALAYSIA

PEPERIKSAAN AKHIR
SEMESTER I
SESI 2009/2010

NAMA SUBJEK	:	PENGATURCARAAN KOMPUTER
KOD SUBJEK	:	BTI 1022
KURSUS	:	2 BDD, 3 BDD, 4 BDD
TARIKH PEPERIKSAAN	:	NOVEMBER 2009
JANGKA MASA	:	2 JAM
ARAHAN	:	JAWAB SEMUA SOALAN.

KERTAS SOALAN INI MENGANDUNGI SEMBILAN (9) MUKA SURAT

Instruction: Answer **ALL** questions.

Q1   What would be displayed by the following program? (The symbol '#' stands for one blank character.)

```
int
main(void)
{
        double a, b;

        a = 37.56;
        b = 101.117;
        printf("Is it%6.1f%9.4f", a, b);
        printf("?\n");

        return (0);
}
```

(2 marks)

Q2   What will be the value of i after the C statements have been executed?

```
i = 3;
j = 10;
if ((3 * i) < j)
        i = i + 2;
i = i + 3;
```

(2 marks)

Q3   What is displayed by the C statements at the right if the value input is 3?

```
scanf("%d", &n);
        if (n = 5)
        printf("Equal\n");
        else if (n < 5)
                printf("Less\n");
            else
                printf("Greater\n");
```

(2 marks)

Q4 The following code segment is syntactically correct, but difficult to read. Rewrite the segment using indentation that improves its readability.

```
if (road_stat == 's')
if (temp > 0)
printf("Roads wet.\n");
else
printf("Roads icy.\n");
else
printf("Roads dry.\n");
```

(3 marks)

Q5 Evaluate the expression below assuming a is 5, flag is 1, and c is 15. What part of the expression is not computed at all because of short-circuit evaluation?

```
a != 3 && flag || c >= 10
```

(2 marks)

Q6 The following code segment displays

```
v1 = 15.0;
v2 = 0.5;

if (v1 > 10.0)
    printf("ten ");
else if (v1 > 14.0)
    printf("fourteen ");
if (v2 * v1 > 7.0)
    printf("seven ");
if (v1 - v2 > 9.0)
    printf("nine ");
printf("\n");
```

(3 marks)

Q7 How many lines of output will be displayed by the following program fragment?

```
i = 0
do {
    for (j = 0; j < 4; j = j + 1)
        printf("%d\n", i + j);
    i = i + 1;
} while (i < 5);
```

(3 marks)

Q8   Assume that all variables are of type int.

```
z = 0;
g = 0;
s = 0;
i = 0;
while (i < 50) {
      scanf("%d", &t);
      s = s + t;
      if (t >= 0)
            g = g + 1;
      else
            z = z + 1;
      i = i + 1;
}
```

How many times is the loop body of the while statement executed?

(3 marks)

Q9   Complete the program below so that it displays the value of n and the message " is positive." if n is positive. If n is negative, the program should display the value of n and the message " is negative." If n is zero, the program should produce no output at all.

```
#include <stdio.h>

int
main(void)
{
      double n;

      printf("Enter a number> ");
      scanf("%lf", &n);
```

(5 marks)

Q10   The intention of the following program fragment is to display the positive integers from 1 through n, but it doesn't work. Correct the while statement so the fragment achieves the desired effect.

```
i = 1;
while (i <= n)
      printf("%d   ", n);
      i = i + 1;
printf("\n");
```

(5 marks)

Q11 Rewrite the following code segment as an equivalent segment that uses a for statement.

```
product = 1;
next = 1;
while (next <= m) {
    product = product * next;
    next = next + 1;
}
```

(5 marks)

Q12 What is displayed by the following code fragment if all the variables are of type int?

```
k = 0;
m = 0;
for  (p = 0;   p < 10;   p = p + k) {
    k = k + 1;
    m = m + p;
    printf("%4d%4d%4d\n", p, k, m);
}
```

(5 marks)

Q13 Write a complete C program that prompts the user to enter the radius of a circle and displays the circumference. Be sure to name the constant P.

(10 marks)

Arahan: Jawab **SEMUA** soalan.

Q1 Apakah yang akan dipaparkan oleh aturcara di bawah? (Simbol '#' mewakili satu karakter kosong.)

```
int
main(void)
{
     double a, b;

     a = 37.56;
     b = 101.117;
     printf("Is it%6.1f%9.4f", a, b);
     printf("?\n");

     return (0);
}
```

(2 markah)

Q2 Nyatakan nilai i selepas penyataan C di bawah ini dikompil?

```
i = 3;
j = 10;
if ((3 * i) < j)
     i = i + 2;
i = i + 3;
```

(2 markah)

Q3 Apakah yang akan dipaparkan jika nilai input adalah 3?

```
scanf("%d", &n);
     if (n = 5)
     printf("Equal\n");
     else if (n < 5)
               printf("Less\n");
          else
               printf("Greater\n");
```

(2 markah)

Q4 Segmen kod aturcara di bawah secara sinteksnya adalah betul tetapi sukar untuk dibaca. Tuliskan kembali segmen kod tersebut supaya mudah dibaca.

```
if (road_stat == 's')
if (temp > 0)
printf("Roads wet.\n");
else
printf("Roads icy.\n");
else
printf("Roads dry.\n");
```

(3 markah)

Q5 Nyatakan nilai dari penyataan di bawah dan bahagian manakah dari penyataan tersebut tidak diproses dengan andaian a adalah 5, flag adalah 1, and c adalah 15.

```
a != 3 && flag || c >= 10
```

(2 markah)

Q6 Nyatakan nilai yang akan dipaparkan oleh kod segmen di bawah.

```
v1 = 15.0;
v2 = 0.5;

if (v1 > 10.0)
    printf("ten ");
else if (v1 > 14.0)
    printf("fourteen ");
if (v2 * v1 > 7.0)
    printf("seven ");
if (v1 - v2 > 9.0)
    printf("nine ");
printf("\n");
```

(3 markah)

Q7 Berapakah bilangan output garis yang akan dipaparkan oleh segmen aturcara berikut?

```
i = 0
do {
    for (j = 0;  j < 4;  j = j + 1)
        printf("%d\n", i + j);
    i = i + 1;
} while (i < 5);
```

(3 markah)

7

Q8   Andaikan semua pembolehubah di bawah ini berjenis int.

```
z = 0;
g = 0;
s = 0;
i = 0;
while (i < 50) {
      scanf("%d", &t);
      s = s + t;
      if (t >= 0)
          g = g + 1;
      else
          z = z + 1;
      i = i + 1;
}
```

Berapa kalikah badan gelung penyataan *while* dilaksanakan?

(3 markah)

Q9   Lengkapkan aturcara di bawah ini untuk memaparkan nilai n dan mesej " is positive." jika n adalah positif. Jika n adalah negatif, aturcara akan memaparkan nilai n dan mesej " is negative." Jika n adalah kosong, aturcara tidak menghasilkan apa-apa output.

```
#include <stdio.h>

int
main(void)
{
      double n;

      printf("Enter a number> ");
      scanf("%lf", &n);
```

(5 markah)

Q10 Betulkan penyataan *while* di bawah supaya dapat memaparkan output integer positif dari 1 hingga n.

```
i = 1;
while (i <= n)
      printf("%d  ", n);
      i = i + 1;
printf("\n");
```

(5 markah)

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Q11 Tuliskankan segmen kod di bawah ini dengan menggunakan penyataan *for*.

```
product = 1;
next = 1;
while (next <= m) {
     product = product * next;
     next = next + 1;
}
```

(5 markah)

Q12 Nyatakan paparan output bagi segmen kod jika semua pembolehubah adalah berjenis integer.

```
k = 0;
m = 0;
for  (p = 0;  p < 10;  p = p + k) {
    k = k + 1;
    m = m + p;
    printf("%4d%4d%4d\n", p, k, m);
}
```

(5 markah)

Q13 Tuliskan aturcara lengkap untuk memaparkan output ukurkeliling bagi sebuah bulatan apabila pengguna memasukkan nilai jejarinya.

(10 markah)