

Assignment

Vaishnavi Rathour (65)

Q1:-

```
# include <stdio.h>
```

```
int main () {
```

```
    int price, state, totalprice ;
```

```
    printf ("Enter original price of the product");
```

```
    scanf ("%d", &price);
```

```
    printf ("Enter sales tax");
```

```
    scanf ("%d", &state);
```

```
    Totalprice = Price + price * (state / 100);
```

```
    printf ("The total price after adding sales tax is %d",
```

```
    totalprice);
```

```
return 0;
```

```
}
```

(Output)

Enter original price of the product 500

Enter Sales tax 25

The total price after adding sales tax is 625

Q-2 # include <stdio.h>

```
int main () {
```

```
    int wages, hours, total_wage;
```

```
    printf ("Enter daily wage");
```

```
    scanf ("%d", &wages);
```

```
    printf ("Enter hours");
```

```
    scanf ("%d", &hours);
```

```
(hours > 30)
```

```
if
```

```
{
```

```
Total_wage = wages * hours * 2;
```

```
else {
```

```
Total_wage = wages * hours
```

```
printf ("total wage is %d", total_wage);
```

```
}
```

Output

Enter daily wage 1000

Enter hours 31

Total wage is 62000

Q-3 #include <stdio.h>
 Vaishnavi Rathour (GS)
 int main() {
 int x;
 printf ("The amount shopkeeper will return to X");
 x = 500 - ((2.0 * 50) + (1.5 * 35.0) + (2.5 * 10.0) + (15.0 * 0));
 printf ("%d", x);
 return 0;
 }

Output - The amount Shopkeeper will return to X 307.

Q-4 #include <stdio.h>
 int main() {
 printf ("Name : Vaishnavi Rathour \n DOB : 9-July-2005 \n
 Mobile-no : 8273XXXXXX");
 return 0;
 }

Output
 Name : Vaishnavi Rathour
 DOB : 9 - July - 2005
 Mobileno : 8273XXXXXX

Q-5 #include <stdio.h>
 int main() {
 int a;
 char b;
 float c;
 printf ("Enter a integer");
 scanf ("%d", &a);
 printf ("Enter a character");
 scanf ("%c", &b);
 printf ("Enter a decimal");
 scanf ("%f", &c);
 printf ("%d %c %.f", a, b, c);
 return 0;

Output
 Enter a integer 5
 Enter a char w
 Enter a decimal 4.
 5
 w
 4.000000

Q-6 # include <stdio.h>

Vaishnavi Rathore (65)

int main()

{

float cost;

Cost = \$ 172.53;

printf ("The sales total is: %.2f", Cost);

return 0;

}

Output

The Sales total is: \$ 172.53

Q-7 # include <stdio.h>

int main()

{

float apple = 6.5;

printf ("Total apples Raju got from his friends = %.2f", 3);

return 0;

}

Output

Total Apple Raju got from
his friends = 19.6

Q-8 # include <stdio.h>

int main()

{

float a;

scanf ("%f", &a);

printf ("% .2e", a);

return 0;

}

Output

484.75

4.85e + 002

Q-9 # include <stdio.h>

int main()

{

long long int num;

scanf ("%lld", &num);

printf ("Mobile no: %lld", num);

return 0;

}

Output

8273XXXXXX

Mobile no: 8273XXXXXX

Q-10 #include <stdio.h>

int main()

{

int p = 30000, n;

n = p * (120/100) * (130/100);

printf("Population after two years = %.d", n);

return 0;

}

Vaishnavi Rathour (65)

Output

Population after two
years = 96800

Q-11 #include <stdio.h>

int main()

{

char a;

scanf("%c", &a);

printf("%d", a);

return 0;

}

Output

A

65

Q-12 #include <stdio.h>

int main()

{

float pay, HRA, TA, Total;

scanf("%f", &pay);

HRA = (15/100) * pay;

TA = (20/100) * pay;

Total = Pay + HRA + TA

printf("Salary : %f", total);

return 0;

}

Output

10000

Salary : 13500.00

Q-13

```

#include <stdio.h>
#include <math.h>
int main()
{
    float np, yp, nq, yq, m, angle;
    printf ("Enter n and y coordinates of P");
    scanf ("%f %f %f %f", &np, &nq, &yp, &yq);
    m = (yp - yq) / (np - nq);
    printf ("%f", m);
    angle = atan(m) * 180 / 3.14;
    printf ("%f", angle);
    return 0;
}

```

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Output

Enter n and y coordinates
of P 3 2 5 1
4.000000
76

Q-14 #include <stdio.h>

```

#include <math.h>
int main()
{
    int c1, c2, c3, c4, s, g1, g2, g3, g4, gs;
    printf ("Enter S credits");
    scanf ("%d %d %d %d %d", &c1, &c2, &c3, &c4, &s);
    printf ("Enter S grades");
    scanf ("%d %d %d %d %d", &g1, &g2, &g3, &g4, &gs);
    float spi;
    spi = (c1 * g1 + c2 * g2 + c3 * g3 + c4 * g4 + c5 * gs) / s;
    printf ("%f", spi);
    return 0;
}

```

Output

Enter S credits 4 4 2 2 1
Enter S grades 2 5 3 0 2 4
2 5 6 / 5 3 8 4

3

(Vaishnavi Rathour) (65)

Q15 #include <stdio.h>
int main()
{
 float w, f, c;
 Scanf ("%.f, &f");
 Scanf ("%.f", &w);
 c = f * w;
 Printf ("%.f", c);
 return 0;
}

Output
2
5000
100 00. 000000

Q16 #include <stdio.h>

int main()
{
 int u = 30, a = 70, s = 50; v,
 Printf ("u=%d m/s \n a=%d m/s^2 \n s=%d m",
 u, a, s);
 v = u + 2 * a * s;

Output
 $U = 30 \text{ m/s}$
 $a = 70 \text{ m/s}^2$
 $S = 50 \text{ m}$

final velocity = 730 m/s

Printf (" final velocity = %d m/s , v);
return 0;

3

Q-17 - #include <stdio.h>

int main()
{
 int u = 0, a = 4, t = 3 / s, v,
 Printf ("u=%d m/s \n a=%d m/s \n t=%d s \n",
 u, a, t);
 v = u + a * t;
 s = u * t + a * t * t * (1/2);
 Printf ("final velocity = %d m/s \n distance travelled = %d m",
 v, s);
 return 0;

Output
 $U = 0 \text{ m/s}$
 $a = 4 \text{ m/s}^2$
 $t = 3 \text{ s}$
Final velocity = 12 m/s
Distance travelled = 18 m

Q-18 #include <stdio.h>

```
int main()
{
```

```
long long int n, p, q, r, s;
```

```
scanf("%d", &n);
```

```
p = (n % 10);
```

```
n = n / 10;
```

```
q = (n % 10);
```

```
n = n / 10;
```

```
s = (n % 10);
```

```
printf("%lld", p+q+r+s);
```

```
return 0;
```

```
}
```

Q-19 #include <stdio.h>

```
int main()
{
```

```
float h, w, Hf, w_p;
```

```
printf("Enter height and weight in cm and kg");
```

```
scanf("%f %f", &h, &w);
```

```
Hf = h * 0.393701 / 12;
```

```
w_p = w * 2.20462;
```

```
printf("%f\n%f", Hf, w_p);
```

Output

Enter height and weight

152 45

4.986879

9.9207907

Vaishnavi Rathore (65)

Output

46895764

22

Q-20 #include <stdio.h>
int main()

Vaishnavi Rathour (6S)

- (a) char option ;
- (b) int sum = 0 ;
- (c) float product = 1 ;
 {

Q-21 #include <stdio.h>

int main ()

{

int a, b, c, d, e, f, g, h, i ;

scanf ("%d %d %d %d %d %d %d %d", &a, &b, &c,
&d, &e, &f, &g, &h, &i);

printf ("%d, %d, %d\n %d %d %d %d",

a, b, c, d, e, f, g, h, i);

return 0;

}

Output

1 2 3 4 5 6 7 8 9

1, 2, 3

4, 5, 6

7, 8, 9

Q-22 A header file is a file with extension .h which contains c function declaration and macro definitions to be shared between several source files. These are of two types of header files:

The files that the programmer writes and the files that come with your compiler. These are collection of predefined functions.

Q - 23 -

Output

Vaishnavi Rathore (65)

SG ----- 70 ----- B8

Q - 24

Output

GLA UNIVERSITY 14

Q - 25

Library functions are built functions located in some common location called library.

Examples of library function are

string.h, stdio.h, math.h, stdio.h :

Q - 26 Output

C is placement oriented language Hi 80 36 ie

Q - 27 C(" % d", scanf ("%d%d", &a, &b));

O/P - 2

Q - 28 Output

" C % FOR % PLACEMENT

Q-29 # include <stdio.h>

int main()

{

int d, t = 4, s ;

scanf ("%d", &d);

printf ("distance b/w GLA and Delhi = %d", d);

s = d * t ;

printf ("\n speed of bus = %d km/h", s);

return 0;

Q-30 # include <stdio.h>

int main()

{

float S = 50, Su = 70, Sh = 80, Am;

printf ("Satyam marks = %.2f \n Suman
marks = %.2f \n Shyam marks = %.2f \n",
S, Su, Sh);

Am = (S + Su + Sh) / 3 ;

printf ("Average marks = %.2f ", Am);

return 0;

}

Output

Satyam marks 50.00

Suman marks 70.00

Shyam marks 80.00

Average marks 66.67

Vaishnavi Pathan (65)

Output

100

distance b/w GLA and Delhi = 100

Time taken by bus = 4 h

Speed of bus = 400 km/h

Q-31 Vaishnavi Rathour (65)

```

#include <stdio.h>
#include <math.h>
int main()
{
    int s, a; // s is Saunav & a is sajal
    printf ("Money given to Saunav");
    scanf ("%d", &s);
    printf ("Money given to sajal");
    scanf ("%d", &a);
    s = s * a;
    a = s / a;
    s = s / a;
    printf ("Saunav %d In Sajal %d", s, a);
    return 0;
}

```

Output

Money given to Saunav : 23

Money given to sajal

Saunav * 654

Sajal 234

Q-32 - #include <stdio.h>
int main()
{

```
    int d, s=4, t=3;  
    d = s * t;
```

```
    printf ("%d", d);  
    return 0;
```

}

Output
12

Q-33 - Yes, two or more escape sequences be combined in a single line of program.

Q-34 - Comments in C lang. are used to provide information about the code. It is widely used for documenting code.

The single line comments are inserted by using "://" at first. and multi-line comment in C starts with a forward slash and asterisk (*) and ends with an asterisk and forward slash (*/).

Q-35 - scanf ("%d", number) — wrong

scanf ("%d", & number) — correct

Q-36 - include <stdio.h>

```
int main()
```

{

```
if (sizeof (int) > -1)
```

```
    printf ("Yes");
```

else

```
    printf ("No");
```

```
return 0;
```

}

Output
No

Q-37 -

Vaishnavi Rathour (6S)

Invalid - gross - salary INTEREST, salary/gemp, any

Q-38

include < stdio.h >

int main()
{

int g = 175, t, s = 25;
t = g / s;

printf (" Time required %d ", t);

return 0;

}

Output

Time required = 7

Q-39

include < stdio.h >

int main()

{

float n, y = 75;

// y = 0.2n + 1

n = (10y / 100) * 10.2;

printf (" Time = %.2f ", n);

return 0;

3.

Output

Time = 1.25

Q-40

a) Compiler

Q-41

(C) %0

Q 42 (d) $\pi \cdot 2e$

Q 43 (b) array

Q 44 (c) "Hello" &

Q 45 (d) Garbage, s

Q 46 (c) enum

Q 47 (e) 1

Q 48) Perform ----- directed

$$(9) (36S \cdot SS)_{10} = (?)_2 = (101101101 \cdot 100011)_2$$

$$36S = 101101101$$

$$0 \cdot SS = 100011$$

$$0 \cdot SS \times 2 = 1 \cdot 0 - 1$$

$$0 \cdot 10 \times 2 = 0 \cdot 20 - 0$$

$$0 \cdot 20 \times 2 = 0 \cdot 40 - 0$$

$$0 \cdot 40 \times 2 = 0 \cdot 80 - 0$$

$$0 \cdot 80 \times 2 = 1 \cdot 60 - 1$$

$$\cancel{0 \cdot 60 \times 2} = 1 \cdot 20 = 1$$

$$\begin{array}{r}
 2 | 36S \\
 2 | 182 \\
 2 | 91 \\
 2 | 45 \\
 2 | 22 \\
 2 | 11 \\
 2 | 5 \\
 2 | 4 \\
 2 | 2 \\
 2 | 1 \\
 \hline
 0
 \end{array}
 \quad
 \begin{array}{r}
 1 \\
 0 \\
 1 \\
 1 \\
 0 \\
 1 \\
 0 \\
 1 \\
 0 \\
 1
 \end{array}$$

↑

Ams: $36S \cdot S3 = 1011011001$

(b) $(435.65)_{10} = (?)_8 \approx (705.514632)_8$ Vaishnavi Rathore (65)

$$\begin{array}{r} 435 \\ 65 \end{array}$$

$$\begin{array}{r}
 0.65 \times 8 = 5.2 \\
 0.2 \times 8 = 1.6 \\
 0.6 \times 8 = 4.8 \\
 0.8 \times 8 = 6.4 \\
 0.4 \times 8 = 3.2 \\
 0.2 \times 8 = 1.6
 \end{array}
 \quad \left| \begin{array}{r} 5 \\ 1 \\ 4 \\ 6 \\ 3 \end{array} \right.$$

(c) $(5164.12)_{10} \approx (142(1EB8S))_{16}$

$$\begin{array}{r} 5164 \\ 322 \\ 20 \\ 1 \\ 0 \end{array} \quad \begin{array}{r} 12-C \\ 2 \\ 4 \\ 1 \end{array}$$

$$\begin{array}{l}
 0.12 \times 16 = 1.92 - 1 \\
 0.92 \times 16 = 14.72 - 14 - E \\
 0.72 \times 16 = 11.52 = 11-B \\
 0.52 \times 16 = 8.32 - 8 \\
 0.32 \times 116 = 5.12 - 5
 \end{array}$$

(d) $(23.65)_{10} = (433)_5$

$$\begin{array}{r} 23 \\ 65 \end{array}$$

$$0.6 \times 5 = 3$$

(e) $(772)_{10} \approx (2152)_7$

$$\begin{array}{r} 772 \\ 110 \\ 15 \\ 2 \\ 0 \end{array} \quad \begin{array}{r} 2 \\ 5 \\ 1 \\ 2 \end{array}$$

Q-49 (a) $(325.54)_6 = (?)_{10} = (125.944)_0$

$$\begin{aligned} &= 3 \times 6^2 + 2 \times 6^1 + 5 \times 6^0 + 5 \times 6^{-1} + 4 \times 6^{-2} \\ &= (925.944)_{10} \end{aligned}$$

(b) $(1001010110101.1110101)_2 = (?)_{10} = (4789.914)_0$

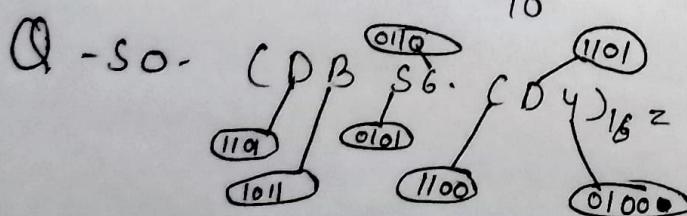
$$\begin{aligned} &1 \times 2^{12} + 1 \times 2^9 + 1 \times 2^7 + 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^2 + 1 \times 2^0 + 2^{-10} \\ &+ 1 + 1 \times 2^{-5} + 1 \times 2^{-7} \\ &= (4789.914)_{10} \end{aligned}$$

(c) $(742.72)_8 = (?)_{10} = (496.875)_0$

$$\begin{aligned} &= 7 \times 8^2 + 4 \times 8^1 + 2 \times 8^0 + 7 \times 8^{-1} + 2 \times 8^{-2} \\ &= (496.875)_{10} \end{aligned}$$

(d) $(A(940CS))_{16} = (44180.77)_{10}$

$$\begin{aligned} &= 10 \times 16^3 + 12 \times 16^2 + 9 \times 16^1 + 4 \times 16^0 + 12 \times 16^{-1} + 5 \times 16^{-2} \\ &= (44180.77)_{10} \end{aligned}$$



$$= (?)_2 = (1101101101010110.110011010100)_2$$

$$= (?)_8 = (155526.6324)_8$$

$$= (?)_4 = (31221112.303110)_4$$

(Vaishnavi Rathour) (65)

Q-S1 $(473 \cdot 42)_8 = (?)_2, (?)_{10}, (?)_6, (?)_5$

$$(473 \cdot 42)_8 = (100111011 \cdot 100010)_2$$

$$1 \times 2^8 + 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 1 \times 1 + 1 + 2^{-1} + 1 \times 2^5$$

$$=?_{10} = (314 \cdot 53125)_{10}$$

$$=?_{10} = (13A \cdot 88)_{16}$$

$$=?_S = (2224 \cdot 231)_S$$

16	314	$0 \cdot 53125 \times 16 = 8.5$
16	19 10	$= 8$
16	1 3	$0 \cdot 9 \times 16 = 8 = 8$
	0 1	$0 \cdot 53125 \times 5 = 2.65$

S	314	- 2
S	62 4	$0 \cdot 65625 \times 5 = 3.25$
S	12 2	
S	2 2	$0 \cdot 28125 \times 5 = 1.4$
	0 2	

Q-S2 (a) $(23)_{10} = (17)_A = 16$

$$23 = 1 \times A^1 + 7 \times A^0$$

$$23 = A + 7$$

$$A = 23 - 7$$

$$\boxed{A = 16}$$

(b) $(21)_{10} = 41(A) \quad \boxed{A = 11}$

$$(41)_A = (21)_{16}$$

$$4 \times A^1 + 1 \times A^0 = 2 \times 16^1 + 1 \times 16^0$$

$$4A = 33 - 1$$

$$A = \frac{32}{4}$$

$$\boxed{A = 8}$$

Vaishnavi Rathour (65)

(c) $(32)_8 = (101)_A \quad A=5$

$$(101)_A = (32)_8$$

$$1 \times A^2 + 0 \times A^1 = 3 \times 8^1 + 2 \times 8^0$$
$$A^2 + 1 = 24 + 2$$
$$A^2 = 25$$

$$\boxed{A=5}$$

Q-53 Output

32770

Q-54 Output

Temperature in Fahrenheit is 37.00