Work - Book

C & DSA

DATE
PAGE

1. `int *f(int *);`

   B. f is a f^n which takes int pointer as an argument and returns address of an integer

   Ans

2.
```
main()
{
    extern int i;
    i = 20;
    printf("%d", i);
}
```

A. Linking Error

3.
```
void main()
{
    static int i = 5;
    if(--i)
    {   main();
        printf("%d", i);
    }
}
```

4. Ans

How many Zero's = 4

4 ⇒ D

```
main()
{ void pr();
  pr();
  pr();
  pr();
  pr();
}

void pr()
{
  static int i=1;
  printf("%c", (65 + i++));
}
```

→ 66 → B
→ 67 → C
→ 68 → D

char

↳ BCD Ans

5 ⇒ A

```
int k = (i<<3) + (j>>2)
```

↳ `int k = i*8 + j/4;`

6 ⇒ A

```
int foo ( unsigned int n)
{ int c, x = 0;
  while ( n != 0)
  { if (n & 01) x++;
    n >>= 1;
  }
  return (x);
}
```

Ans ↳ It counts the total no. of bits set in an unsigned integer

7⇒

```
int f ( int a , int b)
{
    if (b==0)
        return 1;
    else if ( b%2 ==0)
        return (f(a, b/2) * f ( a, b/2));
    else
        return ( a * f(a, b/2) * f(a, b/2));
}
```

1024

$f(2, 10) = f(2,5) * f(2,5)$

$= (2 * f(2,2) * f(2,2))^2$

$= (2 * f(2,1)^4)^2$

$= 4 * (2 * f(2,0) * f(2,0))^8$

$= 2^2 \times 2^8 \times 1 \times 1$

$= 2^{10}$ Ans

8⇒

```
#include <stdio.h>
#define R 10
#define C 20
int main()
{
    int (*p)[R][C];
    printf("%d", sizeof (*p));
    getchar();
    return 0;
}
```

$(10 \times 20) \times 4$

$= 800$ Ans

Size of (*p) = 800 Ans

(9) I

(A) typedef int(*rtn)(); rtn p;

(B) int(*p)[4];

(C) int *p[4];

II

(1) pointer to an array of int

(2) pointer to f^n returning int

(3) Array of pointers pointing to

(B)

A → 2
B → 1
C → 3

Ans

(10)

```
int i;
main()
{ i=3; s(); R(); }
Void s()
{ print (i);
  print (" ");
}
Void R()
{
  int i=2;
  s();
}
```

Static	Dynamic
3 3	3 2

Ans