Q1 What is the output of following program?

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| |  | | --- | | void fun(int \*p)  {    int q = 10;    p = &q;  }    int main()  {    int r = 20;    int \*p = &r;    fun(p);    printf("%d", \*p);    return 0;  } | |

**Ans:** B. 20

Q2 Output of following program?

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| Assume sizeof an integer and a pointer is 4 byte. Output?   |  | | --- | | #include <stdio.h>    #define R 10  #define C 20    int main()  {     int (\*p)[R][C];     printf("%d",  sizeof(\*p));     getchar();     return 0;  } |   **Ans:** C. 800  Q3 Output of following program?   |  |  | | --- | --- | | |  | | --- | | #include <stdio.h>  int main()  {      int a[5] = {1,2,3,4,5};      int \*ptr = (int\*)(&a+1);      printf("%d %d", \*(a+1), \*(ptr-1));      return 0;  } | | |

**Ans:** A. 2 5

Q4 Consider a compiler where int takes 4 bytes, char takes 1 byte and pointer takes 4 bytes.

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| #include <stdio.h>    char \*c[] = {"GeksQuiz", "MCQ", "TEST", "QUIZ"};  char \*\*cp[] = {c+3, c+2, c+1, c};  char \*\*\*cpp = cp;    int main()  {      printf("%s ", \*\*++cpp);      printf("%s ", \*--\*++cpp+3);      printf("%s ", \*cpp[-2]+3);      printf("%s ", cpp[-1][-1]+1);      return 0;  }  **Doubt**  **Ans:** A. TEST sQuiz Z CQ  Q5 Assume that float takes 4 bytes, predict the output of following program.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Predict the output   |  | | --- | | #include <string.h>  #include <stdio.h>  #include <stdlib.h>    void fun(char\*\* str\_ref)  {      str\_ref++;  }    int main()  {      char \*str = (void \*)malloc(100\*sizeof(char));      strcpy(str, "GeeksQuiz");      fun(&str);      puts(str);      free(str);      return 0;  } |   **Ans:** A. GeeksQuiz   |  | | --- | | **Q6** |  |  |  | | --- | --- | | Assume that the size of int is 4.   |  | | --- | | #include <stdio.h>  void f(char\*\*);  int main()  {      char \*argv[] = { "ab", "cd", "ef", "gh", "ij", "kl" };      f(argv);      return 0;  }  void f(char \*\*p)  {      char \*t;      t = (p += sizeof(int))[-1];      printf("%sn", t);  } | | | |
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**Ans:** D. gh

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| **Q7** |

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| |  | | --- | | #include <stdio.h>  int main()  {      int a[][3] = {1, 2, 3, 4, 5, 6};      int (\*ptr)[3] = a;      printf("%d %d ", (\*ptr)[1], (\*ptr)[2]);      ++ptr;      printf("%d %dn", (\*ptr)[1], (\*ptr)[2]);      return 0;  } | |

**Ans:** A. 2 3 5 6

**Q8**

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| |  | | --- | | #include <stdio.h>  #include <stdlib.h>    int main(void)  {      int i;      int \*ptr = (int \*) malloc(5 \* sizeof(int));        for (i=0; i<5; i++)          \*(ptr + i) = i;        printf("%d ", \*ptr++);      printf("%d ", (\*ptr)++);      printf("%d ", \*ptr);      printf("%d ", \*++ptr);      printf("%d ", ++\*ptr);  } |   **Doubt**  **Ans:** B. 0 1 2 2 3  **Q9**  Output of following program   |  | | --- | | #include <stdio.h>  int fun(int arr[]) {     arr = arr+1;     printf("%d ", arr[0]);  }  int main(void) {     int arr[2] = {10, 20};     fun(arr);     printf("%d", arr[0]);     return 0;  } |   **Ans:** B. 20 10  Q10 The reason for using pointers in a Cprogram is  What is printed by the following C program?   |  |  | | --- | --- | | $include <stdio.h>   |  | | --- | |  |   int f(int x, int \*py, int \*\*ppz)  {    int y, z;    \*\*ppz += 1;     z  = \*\*ppz;    \*py += 2;     y = \*py;     x += 3;     return x + y + z;  }    void main()  {     int c, \*b, \*\*a;     c = 4;     b = &c;     a = &b;     printf( "%d", f(c,b,a));     getchar();  } |   7+7+5=19  **Ans:** B. 19  **Q11**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | What is the output of the following C code? Assume that the address of x is 2000 (in decimal) and an integer requires four bytes of memory.   |  | | --- | | #include <stdio.h>  int main()  {     unsigned int x[4][3] = {{1, 2, 3}, {4, 5, 6},                             {7, 8, 9}, {10, 11, 12}};     printf("%u, %u, %u", x+3, \*(x+3), \*(x+2)+3);  } |   **Ans:** A. 2036, 2036, 2036  Q12 Consider this C code to swap two integers and these five statements after it:   |  |  | | --- | --- | | Consider the following C program.   |  | | --- | | # include  int main( )  {    static int a[] = {10, 20, 30, 40, 50};    static int \*p[] = {a, a+3, a+4, a+1, a+2};    int \*\*ptr = p;    ptr++;    printf("%d%d", ptr - p, \*\*ptr};  }  **DOUBT** |   **Ans:** A. 2036, 2036, 2036 |   **Q13**   |  | | --- | |  |  |  |  | | --- | --- | | |  | | --- | | #include "stdlib.h"  int main()  {   int \*pInt;   int \*\*ppInt1;   int \*\*ppInt2;     pInt = (int\*)malloc(sizeof(int));   ppInt1 = (int\*\*)malloc(10\*sizeof(int\*));   ppInt2 = (int\*\*)malloc(10\*sizeof(int\*));     free(pInt);   free(ppInt1);   free(\*ppInt2);   return 0;  } | |   **Ans:** D. No issue with any of the malloc() and free() i.e. no compile/run time error  Q14 Predict the output of following program   |  |  | | --- | --- | | |  | | --- | | #include "stdio.h"  int main()  {   void \*pVoid;   pVoid = (void\*)0;   printf("%lu",sizeof(pVoid));   return 0;  } |   Pick the best statement for the above C program snippet.  **Ans:** C. No compile issue and no run time issue. And the size of the void pointer i.e. pVoid would equal to size of int.  **Q15** | | In the context of the below program snippet, pick the best answer.   |  | | --- | | #include "stdio.h"  int arr[10][10][10];  int main()  {   arr[5][5][5] = 123;   return 0;  } |   Which of the given printf statement(s) would be able to print arr[5][5][5]   |  | | --- | | (i) printf("%d",arr[5][5][5]);  (ii) printf("%d",\*(\*(\*(arr+5)+5)+5));  (iii) printf("%d",(\*(\*(arr+5)+5))[5]);  (iv) printf("%d",\*((\*(arr+5))[5]+5)); |   **Ans:** F. all (i), (ii), (iii) and (iv) would compile and all would print 123.  **Q16** | |  | | Find out the correct statement for the following program.   |  | | --- | | #include "stdio.h"    typedef int (\*funPtr)(int);    int inc(int a)  {   printf("Inside inc() %dn",a);   return (a+1);  }    int main()  {     funPtr incPtr1 = NULL, incPtr2 = NULL;     incPtr1 = &inc; /\* (1) \*/   incPtr2 = inc; /\* (2) \*/     (\*incPtr1)(5); /\* (3) \*/   incPtr2(5); /\* (4)\*/     return 0;  }  **DOUBT** |   **Ans:** E. No compile error and program will run without any issue.  Q17 What does the following program print?   |  | | --- | | ‘ptrdata’ is a pointer to a data type. The expression \*ptrdata++ is evaluated as (in C++) : |   **Ans:** D. \*(ptrdata++)   |  | | --- | | **Q18** |  |  |  | | --- | --- | | Consider the following C function   |  | | --- | | #include <stdio.h>  int main(void)     {      char c[ ] = "ICRBCSIT17";      char \*p=c;      printf("%s", c+2[p] – 6[p] – 1);      return 0;     } | |   **Ans:** D. 17  Q19 What does the following C-statement declare? [1 mark]  What will be output of the following program? Assume that you are running this program in little-endian processor.   |  | | --- | | #include<stdio.h>    int main() {      short a = 320;      char \* ptr;      ptr = (char \* ) & a;      printf("%d", \* ptr);      return 0;  } |   **Ans:** C. 64 |  |  | | --- | |  | |  |  | | --- | |  |  |  | | --- | |  |  |  | | --- | |  |  |  | | --- | |  | |
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