



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

## INFORMATION TECHNOLOGY

### DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	<b>PROGRAMMING FOR PROBLEM SOLVING</b>
Course Code	:	<b>ACSB01</b>
Program	:	<b>B.Tech</b>
Semester	:	<b>II</b>
Branch	:	<b>CSE   IT   ECE   EEE</b>
Section	:	<b>A, B,C, D</b>
Course Coordinator	:	<b>Mr. P Ravinder, Assistant Professor</b>
Course Faculty		Dr. J Sirisha Devi, Associate Professor, CSE Dept Dr. R ObulaKonda Reddy Associate Professor , CSE Dept Mrs. K Laxmi Narayanamma, Assistant Professor, IT Dept. Mrs. B Padmaja Assistant Professor, CSE Dept Dr. M Purushotham Reddy, IT Dept Mr. Ch Suresh Kumar Raju Assistant Professor, CSE Dept.

### COURSE OBJECTIVES:

The course should enable the students to:	
I.	Learn adequate knowledge by problem solving techniques.
II.	Understand programming skills using the fundamentals and basics of C Language.
III.	Improve problem solving skills using arrays, strings, and functions.
IV.	Understand the dynamics of memory by pointers.
V.	Study files creation process with access permissions.

## DEFINITIONS AND TERMINOLOGY QUESTION BANK

S. No	QUESTION	ANSWER	Blooms Level	CO	CLO	CLO Code
<b>MODULE – I</b>						
1	What will be the output of the C program? #include<stdio.h> int main() { int a = 1, b = 3, c; c = b << a; b = c * (b * (++a)--); a = a >> b; printf("%d",b); return 0; }	36	Remember	CO 1	CLO3	ACSB01.03
2	What will be the output of the C program? #include<stdio.h> int main() { int i = 5; int a = --i + --i + --i; printf("%d",a); return 0; }	8	Remember	CO 1	CLO5	ACSB01.05
3	What will be the output of the C program? #include<stdio.h> int main() { int i = 5; int a = --i - --i - --i - --i; printf("%d",a); return 0; }	-3	Remember	CO 1	CLO5	ACSB01.05
4	What will be the output of the C program? #include<stdio.h> int main() { int a = 2, b = 2, c = 0, d = 2, m; m = a++ && b++ && c++    d++; printf("%d %d %d %d %d",a, b, c, d, m); return 0; }	3 3 1 3 1	Remember	CO 1	CLO6	ACSB01.06
5	What will be the output of the C program? #include<stdio.h> int main() { int i = 5; int a = --i + ++i - i-- + --i; printf("%d",a); return 0; }	8	Remember	CO 1	CLO5	ACSB01.05

6	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() { int i = 5; int a = ++i + ++i + ++i; printf("%d",a); return 0; }</pre>	22	Remember	CO 1	CLO5	ACSB01.05
7	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() { int i = 5; int a = ++i + ++i + ++i + ++i; printf("%d",a); return 0; }</pre>	31	Understand	CO 1	CLO5	ACSB01.05
8	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() { int _ = 5; int=5; int ____ = _ +; printf("%d",____); return0; }</pre>	10	Remember	CO 1	CLO5	ACSB01.05
9	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() { int num1 = 10, num2 = 20; int result;result = num1 * 2 + num2 * 2 ; printf("\nResult is :%d", result); return (0); }</pre>	00	Understand	CO 1	CLO5	ACSBO1.5
10	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; #include&lt;conio.h&gt; int main() { int printf = 13; int c = 7 + printf; printf("the result is :"); printf("%d",c); return 0; }</pre>	Compilation error	Remember	CO 1	CLO4	ACSB01.04

11	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() {     int a = 7, b = 4, c = 2;     printf("a b&amp;c = %d\n",     a b&amp;c);     return 0; }</pre>	7	Remember	CO 1	CLO4	ACSB01.04
12	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() {     int a = 1, b = 3, c;     c = b &lt;&lt;a;     b = c * (b * (++a)--);     a = a     &gt;&gt; b;     printf(     "%d",b);     return     0; }</pre>	36	Remember	CO 1	CLO4	ACSB01.04
13	<p>What will be the output of the C program?</p> <pre>#include&lt;stdio.h&gt; int main() {     printf("%d",printf("cp     rogram"));     return 0; }</pre>	C program	Remember	CO 1	CLO6	ACSB01.06
14	<p>What will be the output of the program if value 25 given to scanf()?</p> <pre>#include&lt;stdio.h&gt; int main() {     inti;     printf("%d\n", scanf("%d",     &amp;i));     return 0; }</pre>	1	Remember	CO 1	CLO6	ACSB01.06
15	<p>What is the output of following program?</p> <pre>#include &lt;stdio.h&gt; int main() {     int a = 1;     int b = 1;     int c = a    --b;     int d = a-- &amp;&amp; --b;     printf("a = %d, b = %d,     c=%d, d = %d", a, b, c, d);     return 0; }</pre>	a = 0, b = 0, c = 1, d = 0	Remember	CO 1	CLO6	ACSB01.06

## MODULE – II

1	Predict the output of following C program. main( ) { int a = 300, b, c ; if ( a >= 400 ) b = 300 ; c = 200 ; printf ( "\n%d %d", b, c ) ; }	0 200	Remember	CO 2	CLO7	ACSB01.07
2	Predict the output of following C program. main( ) { int a = 500, b, c ; if ( a >= 400 ) b = 300 ; c = 200 ; printf ( "\n%d %d", b, c ) ; }	300 200	Remember	CO 2	CLO7	ACSB01.07
3	Predict the output of following C program. main( ) { int x = 10, y = 20 ; if ( x == y ) ; printf ( "\n%d %d", x, y ) ; }	10 20	Remember	CO 2	CLO7	ACSB01.07
4	Predict the output of following C program. main( ) { int x = 10, y = 20 ; if ( x == y ) printf ( "\n%d %d", x, y ) ; }	No output	Remember	CO 2	CLO7	ACSB01.07
5	Predict the output of following C program. main( ) { int x = 3, y = 5 ; if ( x == 3 ) printf ( "%d", x ) ; else ; printf ( "%d", y ) ; }	3 5	Remember	CO 2	CLO7	ACSB01.07
6	Predict the output of following C program. main( ) { int x = 3, y = 5 ; if ( x == 3 ) printf ( "%d", x ) ; else printf ( "%d", y ) ; }	3	Remember	CO 2	CLO7	ACSB01.07

7	Predict the output of following C program. main( ) { int x = 3, y = 5 ; if ( x == 3 ); printf ( "%d", x ); else printf ( "%d", y ); }	Error	Remember	CO 2	CLO7	ACSB01.07
8	Predict the output of following C program. main( ) { int x = 3, y = 5 ; if ( x == 5 ) printf ( "%d", x ); else printf ( "%d", y ); }	5	Remember	CO 2	CLO7	ACSB01.07
9	Predict the output of following C program. main() { int x = 3, y = 5 ; if ( x == 5 ) printf ( "%d", x ); else ; printf ( "%d", y ); }	5	Remember	CO 2	CLO7	ACSB01.07
10	Predict the output of following C program. main() { int x = 3 ; float y = 3.0 ; if ( x == y ) printf ( "\nx and y are equal" ) ; else printf ( "\nx and y are not equal" ) ; }	x and y are equal	Remember	CO 2	CLO7	ACSB01.07
11	Predict the output of following C program. #include<stdio.h> main( ) { int c; int x = 3 ; float y = 3.1 ; if ( x == y ) printf ( "\nx and y are equal" ) ; else printf ( "\nx and y are not equal" ) ; }	x and y are not equal	Remember	CO 2	CLO7	ACSB01.07

12	Predict the output of following C program. <pre>#include&lt;stdio.h&gt; int main() {     float x = 0.1;     if (x == 0.1)         printf("IF");     else if (x == 0.1f)         printf("ELSE IF");     else         printf("ELSE"); }</pre>	ELSE IF	Remember	CO 2	CLO7	ACSB01.07
13	Predict the output of following C program. #include<stdio.h> <pre>int main() {     double x = 0.1;     if (x == 0.1)         printf("IF");     else if (x == 0.1f)         printf("ELSE IF");     else         printf("ELSE"); }</pre>	IF	Remember	CO 2	CLO7	ACSB01.07
14	Predict the output of following C program. #include<stdio.h> <pre>int main()i {     int x = 0.1;     if (x == 0.1)         printf("IF");     else if (x == 0.1f)         printf("ELSE IF");     else         printf("ELSE"); }</pre>	ELSE	Remember	CO 2	CLO7	ACSB01.07
15	Predict the output of following C program. int main() <pre>{     float x = 0.5;     if (x == 0.5)         printf("IF");     else if (x == 0.5f)         printf("ELSE IF");     else         printf("ELSE"); }</pre>	IF	Remember	CO 2	CLO7	ACSB01.07
16	Predict the output of following C program. <pre>#include&lt;stdio.h&gt; main( ) {     int x = 10;     int y = 20 ;     if ( x == y )         printf ( "\n%d %d", x, y ) ; }</pre>	No ouput	Remember	CO 2	CLO7	ACSB01.07

### MODULE – III

1	<p>What will be the output of the program?</p> <pre>#include&lt;stdio.h&gt; #include&lt;conio.h&gt; int main() {     int a[5] = {5, 1, 15, 20, 25};     int i, j, m;     i = ++a[1];     j = a[1]++;     m = a[i++];     printf("%d, %d, %d", i, j, m);     return 0; }</pre>	3, 2, 15	Remember	CO 3	CLO8	ACSB01.08
2	<p>What will be the output of the program?</p> <pre>int main() {     static int a[2][2] = {1, 2, 3, 4};     int i, j;     static int *p[] = {(int*)a,     (int*)a+1, (int*)a+2};     for(i=0; i&lt;2; i++)     {         for(j=0; j&lt;2; j++)         {             printf("%d, %d, %d, %d\n",             *(p+i+j), *(j+p+i),             *(i+p+j), *(p+j+i)); }         }     }</pre>	1, 1, 1,1 2, 2, 2,2 2, 2, 2,2 3, 3, 3,3	Remember	CO 3	CLO8	ACSB01.08
3	<p>What will be the output of the program?</p> <pre>#include&lt;stdio.h&gt; #include&lt;conio.h&gt; int main() {     void fun(int, int[]);     int arr[] = {1, 2, 3, 4};     int i; fun(4, arr);     for(i=0; i&lt;4; i++){         printf("%d,", arr[i]); return 0;}     void fun(int n, int arr[])     {         int *p=0;         int i=0;         while(i++ &lt; n)             p = &amp;arr[i];         *p=0;     }</pre>	1, 2, 3, 4	Remember	CO 3	CLO8	ACSB01.08



4	<p>What will be the output of the program?</p> <pre>#include&lt;stdio.h&gt; void fun(int**p); int main() {     int a[3][4] = { 1, 2, 3, 4, 4, 3,                     2, 8, 7, 8, 9, 0};     int *ptr;     ptr = &amp;a[0][0];     fun(&amp;ptr); return 0; } void fun(int **p) {     printf("%d\n", **p); }</pre>	1	Remember	CO 3	CLO8	ACSB01.08
5	<p>What will be the output of the program?</p> <pre>int main() {     static int arr[] = {0, 1, 2, 3, 4};     int *p[] = {arr, arr+1, arr+2,                 arr+3, arr+4}; int **ptr=p;     ptr++;     printf("%d, %d, %d\n", ptr-p,            *ptr-arr, **ptr);     *ptr++;     printf("%d, %d, %d\n", ptr-p,            *ptr-arr, **ptr);     *++ptr;     printf("%d, %d, %d\n", ptr-p,            *ptr-arr, **ptr);     ++*ptr;     printf("%d, %d, %d\n", ptr-p,            *ptr-arr, **ptr); return 0; }</pre>	1, 1,1 2, 2,2 3, 3,3 3, 4,4	Remember	CO 3	CLO9	ACSB01.09
6	<p>What will be the output of the program if the array begins at 65472 and each integer occupies 2 bytes?</p> <pre>#include&lt;stdio.h&gt; int main() {     int a[3][4] = { 1, 2, 3, 4, 4, 3,                     2, 1, 7, 8, 9, 0};     printf("%u, %u\n", a+1,            &amp;a+1); return 0; }</pre>	65480, 65496	Remember	CO 3	CLO9	ACSB01.09
7	<p>What will be the output of the program in Turb C (under DOS)?</p> <pre>#include&lt;stdio.h&gt; int main() {     int arr[5], i=0;     while(i&lt;5)         arr[i]=++i;     for(i=0; i&lt;5; i++)         printf("%d, ", arr[i]);     return 0; }</pre>	Garbage value, 1, 2, 3, 4,	Remember	CO 3	CLO12	ACSB01.12

8	<p>What will be the output of the program ?</p> <pre>#include&lt;stdio.h&gt; int main() {     int arr[1]={10};     printf("%d\n", 0[arr]);     return 0; }</pre>	10	Remember	CO 3	CLO12	ACSB01.12
9	<p>What will be the output of the program if the array begins at address 65486?</p> <pre>#include&lt;stdio.h&gt; int main() {     int arr[] = {12, 14, 15, 23, 45};     printf("%u, %u\n", arr, &amp;arr);     return 0; }</pre>	65486, 65486	Remember	CO 3	CLO12	ACSB01.12
10	<p>What will be the output of the program?</p> <pre>#include&lt;stdio.h&gt; int main() { float arr[] = {12.4, 2.3, 4.5, 6.7}; printf("%d\n", sizeof(arr)/sizeof(arr[0])); return 0; }</pre>	4	Remember	CO 3	CLO12	ACSB01.12
11	<p>What will be the output of the program if the array begins 1200 in memory?</p> <pre>#include&lt;stdio.h&gt; int main() {     int arr[]={2, 3, 4, 1, 6};     printf("%u, %u, %u\n", arr,     &amp;arr[0], &amp;arr); return 0; }</pre>	1200, 1200, 1200	Remember	CO 3	CLO10	ACSB01.10
12	<p>What will be the output of the following program ?</p> <pre>#include&lt;stdio.h&gt; #include&lt;string.h&gt; int main() {     char str1[20] = "Hello",     str2[20] = " World";     printf("%s\n", strcpy(str2,     strcat(str1, str2)));     return 0; }</pre>	Hello World	Remember	CO 3	CLO10	ACSB01.10
13	<p>What will be the output of the following program ?</p> <pre>#include&lt;stdio.h&gt; int main() {     char p[] = "%d\n";     p[1] = 'c';     printf(p, 65);     return 0; }</pre>	A	Remember	CO 3	CLO10	ACSB01.10

14	What will be the output of the following program ? #include<stdio.h> #include<string.h> int main() { printf("%d\n", strlen("123456")); return 0; }	6	Remember	CO 3	CLO10	ACSB01.10
15	What will be the output of the following program ? #include<stdio.h> int main() { printf(5+"Good Morning\n"); return 0; }	Morning	Remember	CO 3	CLO13	ACSB01.13
<b>MODULE – IV</b>						
1	#include<stdio.h> int main() { char *p; p="hello"; printf("%s\n", *&p); return 0; }	Hello	Remember	CO 4	CLO14	ACSB01.14
2	What is output of the following code? #include<stdio.h> int main() { int i=3, *j, k; j = &i; printf("%d\n", i**j*i+*j); return 0; }	30	Remember	CO 4	CLO14	ACSB01.14
3	What is output of the following code? #include <stdio.h> int main() { int* pc, c; c = 22; pc = &c; printf("%d", *pc); return 0; }	22	Remember	CO 4	CLO14	ACSB01.14
4	What is output of the following code? #include<stdio.h> int main() { int x=30, *y, *z; y=&x; z=y; *y++=*z++; x++; printf("x=%d, y=%d, z=%d\n", x, y, z); return 0; }	x=31, y=504, z=504	Remember	CO 4	CLO14	ACSB01.14

5	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; intmain() { int **r, **q, *p, i=8; p =&amp;i; q= &amp;p;    r = &amp;q; printf("%d\n", **r); return 0; }</pre>	8	Remember	CO 4	CLO14	ACSB01.14
6	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; int main() { intarr[2][2][2] = { 10, 2, 3, 4, 5, 6, 7, 8}; int *p; p = &amp;arr[1][1][1]; printf("%d\n", *p); return 0; }</pre>	8	Remember	CO 4	CLO14	ACSB01.14
7	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; int main() { Int arr[3] = {2, 3, 4}; char *p; p = arr; p = (char*)((int*)(p)); printf("%d, ", *p); return 0; }</pre>	2	Remember	CO 4	CLO14	ACSB01.14
8	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; #include&lt;string.h&gt; int main() { int i, n;*x = x[n]; char *x="Alice"; n = strlen(x); for(i=0; i&lt;=n; i++) { printf("%s ", x); x++; } printf("\n", x); return 0; }</pre>	lice ice ce e	Remember	CO 4	CLO14	ACSB01.14
9	<p>What is output of the following code?</p> <pre>void fun(int *p) { int q = 10; p = &amp;q; } int main() { int r = 20; int *p = &amp;r; fun(p); printf("%d", *p); return 0; }</pre>	20	Remember	CO 4	CLO14	ACSB01.14

10	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; int main() { int a[3][4] = { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 }; printf(" %u\n", *(a[0]+1)); return 0; }</pre>	2	Remember	CO 4	CLO14	ACSB01.14
11	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; int main() { int i, a[] = {2, 4, 6, 8, 10}; change(a, 5); for(i=0; i&lt;=4; i++) printf("%d, ", a[i]); return 0; } void change(int *b, int n) { int i; for(i=0; i&lt;n; i++) *(b+i) = *(b+i)+5; }</pre>	2, 15, 6, 8, 10	Remember	CO 4	CLO14	ACSB01.14
12	<p>What is output of the following code? #include&lt;stdio.h&gt;</p> <pre>char*strFun(void) { char *str="IncludeHelp"; return str; } int main() { char *x; x=strFun(); printf("%s",x); return 0; }</pre>	IncludeHelp	Remember	CO 4	CLO14	ACSB01.14
13	<p>What is output of the following code?</p> <pre>#include &lt;stdio.h&gt; int main() { int a[][3] = {1, 2, 3, 4, 5, 6}; int (*ptr)[3] = a; printf("%d ", (*ptr)[1]); return 0; }</pre>	2	Remember	CO 4	CLO 14	ACSB01.14
14	<pre>#include&lt;stdio.h&gt; int main() { int arr[] = {10, 20, 30, 40, 50, 60}; int *ptr1 = arr; int *ptr2 = arr + 5; printf("%d.", (ptr2 - ptr1)); return 0; }</pre>	5	Remember	CO 4	CLO 14	ACSB01.14

15	<pre>int main( ) {     int s[4][2] = { { 1234, 56 },     { 1212, 33 }, { 1434, 80 },     { 1312, 78 } } ;     int i, j ;     printf ( "%d ", *( *( s + 2 ) + 1)); }</pre>	80	Remember	CO 4	CLO 14	ACSB01.14
<b>MODULE – V</b>						
1	<p>What is output of the following code?</p> <pre>#include&lt;stdio.h&gt; int main() {     FILE *fp; char ch;     fp=fopen("temp.text","w");     fprintf(fp,"%s","C is like a sea");     fclose(fp);     fp=fopen("temp.text","r");     while(!feof(fp))     {         ch=fgetc(fp); if(ch != 32)         printf("%c",ch);     }     fclose(fp); return 0; }</pre>	Cislikeasea	Remember	CO 5	CLO16	ACSB01.16
2	What puts() does when it writes to stdout	Adds „n“ to the line written	Remember	CO 5	CLO16	ACSB01.16
3	What is the purpose of the function? Int ferror(FILE *fp)	They check for output errors	Remember	CO 5	CLO16	ACSB01.1 6
4	stderr is similar to?	stdout	Remember	CO 5	CLO17	ACSB01.1 7
5	What happens when we use? fprintf(stderr,“error:could not open file”);	The diagnostic output is directly displayed in the Output	Remember	CO 5	CLO19	ACSB01.1 9
6	Which function can be used to terminate the main function from another function safely?	exit(expr)	Remember	CO 5	CLO19	ACSB01.1 9
7	What is the size of array “line” used in fgets(line, maxline, *fp) function?	maxline	Remember	CO 5	CLO19	ACSB01.1 9
8	Which function has a return type as char pointer?	fgets()	Remember	CO 5	CLO19	ACSB01.19
9	Write the right declaration for fgets inside the library?	char *fgets(char *line, int maxline, FILE *fp);	Remember	CO 5	CLO19	ACSB01.1 9
10	What is the purpose of sprintf?	It writes the formatted data into a string	Remember	CO 5	CLO17	ACSB01.17
11	putchar(c) function/macro always outputs character c to the	standard output	Remember	CO 5	CLO17	ACSB01.17

12	<pre>#include &lt;stdio.h&gt; #include &lt;stdlib.h&gt; int main() {     FILE *fp = stdout; int n;     fprintf(fp, "%d", 45); }</pre>	45	Remember	CO 5	CLO18	ACSB01.18
13	What are stdout, stdin and stderr ?	File	Remember	CO 5	CLO19	ACSB01.19
14	What is space complexity of bubble sort?	The space complexity for Bubble Sort is $O(1)$ .	Remember	CO 5	CLO19	ACSB01.19
15	What puts() does when it writes to stdout	Adds „n“ to the line written	Remember	CO 5	CLO19	ACSB01.19

Signature of the Faculty

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