INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad - 500 043

MECHANICAL ENGINEERING

DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	**PROGRAMMING FOR PROBLEM SOLVING**
Course Code	:	**ACSB01**
Program	:	**B.Tech**
Semester	:	**I**
Branch	:	**MECHANICAL ENGINEERING**
Section	:	**A, B**
Course Faculty	:	**Ms. A Jayanthi, Assistant Professor**

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
MODULE – I						

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() {	-3	Remember	CO 1	CLO5	ACSB01.05

	int i = 5;
	int a = --i - --i - --i - --i;
	printf("%d",a);
	return 0;
	}					

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	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;
	}
		22	Remember	CO 1	CLO5	ACSB01.05

7	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;
	}
		31	Understand	CO 1	CLO5	ACSB01.05

8	What will be the output of the C program?
	#include<stdio.h>
	int main()
	{
	int _ = 5; int=5;
	int____= _ +;
	printf("%d",___);
	return0;
	}
		10	Remember	CO 1	CLO5	ACSB01.05

9	What will be the	60	Understand	CO 1	CLO5	ACSB01.05

	output of the C program?
	#include<stdio.h>
	int main() {
	int num1 = 10, num2 = 20; int result;
	result = num1 * 2 + num2 * 2 ;
	printf("\nResult is :%d", result);
	return (0);
	}					

10	What will be the output of the C program?
	
	#include<stdio.h
	>
	int main()
	{
	int printf = 13;
	int c = 7 + printf;
	printf("%d",c);
	return 0;
	}
		Compilation error	Remember	CO 1	CLO4	ACSB01.04

11	What will be the output of the C program?
	#include<stdio.h>
	int main()
	{
	int a = 7, b = 4, c = 2;
	printf("a|b&c = %d\n", a|b&c);
	return 0;
	}
		7	Remember	CO 1	CLO4	ACSB01.04

12	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	CLO4	ACSB01.04

13	What will be the output of the C program?
	#include<stdio.h>
	int main()
	{
	printf("%d",printf("cp
	rogram"));
	return 0;
	}
		C program	Remember	CO 1	CLO6	ACSB01.06

14	What will be the output of the program if value *25* given to scanf()? #include<stdio.h	1	Remember	CO 1	CLO6	ACSB01.06

	>`int main()`
	`{`
	`inti;`
	`printf("%d\n", scanf("%d", &i));`
	`return 0;`
	`}`					

15	What is the output of following program?
	`#include <stdio.h>`
	`int main()`
	`{`
	`int a = 1; int b = 1;`
	`int c = a || --b;`
	`int d = a-- && --b;`
	`printf("a = %d, b = %d, c=%d, d = %d", a, b, c, d);`
	`return 0;`
	`}`
		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 ouput	Remember	CO 2	CLO7	ACSB01.07

5	Predict the output of following C program.
	`main( )`
	`{`
	`int x = 3, y = 5 ;`
		3 5	Remember	CO 2	CLO7	ACSB01.07

	if (x == 3)
	printf ("%d", x) ;
	else ;
	printf ("%d", y) ;
	}					

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. main( ) { int x = 3 ; float y = 3.1 ;	x and y are not equal	Remember	CO 2	CLO7	ACSB01.07

	if (x == y)
	printf ("\nx and y are equal") ;
	else
	printf ("\nx and y are not equal") ;
	}					

12	Predict the output of following C program.
	#include<stdio.h>
	int main()
	{
	float x = 0.1;
	if (x == 0.1)
	printf("IF");
	else if (x == 0.1f)
	printf("ELSE IF");
	else
	printf("ELSE");
	}
		ELSE IF	Remember	CO 2	CLO7	ACSB01.07

13	Predict the output of following C program. #include<stdio.h>
	int main()
	{
	double x = 0.1;
	if (x == 0.1)
	printf("IF");
	else if (x == 0.1f)
	printf("ELSE IF");
	else
	printf("ELSE");
	}
		IF	Remember	CO 2	CLO7	ACSB01.07

14	Predict the output of following C program. #include<stdio.h>
	int main()i
	{
	int x = 0.1;
	if (x == 0.1)
	printf("IF");
	else if (x == 0.1f)
	printf("ELSE IF");
	else
	printf("ELSE");
	}
		ELSE	Remember	CO 2	CLO7	ACSB01.07

15	Predict the output of following C program. int main()
	{
	float x = 0.5;
	if (x == 0.5)
	printf("IF");
	else if (x == 0.5f)
	printf("ELSE IF");
	else
	printf("ELSE");
	}
		IF	Remember	CO 2	CLO7	ACSB01.07

MODULE – III						
1	What will be the output of the program? #include<stdio.h> int main() {	3, 2, 15	Remember	CO 3	CLO8	ACSB01.08

	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;
	}					

2	What will be the output of the program?
	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<2; i++)
	{
	for(j=0; j<2; j++)
	{
	printf("%d, %d, %d, %d\n",
	((p+i)+j), *(*(j+p)+i),
	((i+p)+j), *(*(p+j)+i)); }
	}
		1, 1, 1,1
		2, 2, 2,2
		2, 2, 2,2
		3, 3, 3,3
			Remember	CO 3	CLO8	ACSB01.08

3	What will be the output of the program?
	#include<stdio.h>
	int main()
	{
	void fun(int, int[]);
	int arr[] = {1, 2, 3, 4}; int i;
	fun(4, arr);
	for(i=0; i<4; i++){
	printf("%d,", arr[i]); return 0;}
	void fun(int n, int arr[])
	{
	int *p=0; int i=0;
	while(i++ < n)
	p = &arr[i];
	*p=0;
	}
		1, 2, 3, 4	Remember	CO 3	CLO8	ACSB01.08

4	What will be the output of theprogram?
	#include<stdio.h>
	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 = &a[0][0];
	fun(&ptr); return 0;
	}
	void fun(int **p)
	{
	printf("%d\n", **p);
	}
		1	Remember	CO 3	CLO8	ACSB01.08

5	What will be the output of the	1, 1,1	Remember	CO 3	CLO9	ACSB01.09

	program?
	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;
	}
		2, 2,2
		3, 3,3
		3, 4,4				

6	What will be the output of the program if the array begins at 65472 and each integer occupies 2 bytes?
	#include<stdio.h>
	int main()
	{
	int a[3][4] = {1, 2, 3, 4, 4, 3, 2, 1, 7, 8, 9, 0};
	printf("%u, %u\n", a+1, &a+1); return 0;
	}
		65480, 65496	Remember	CO 3	CLO9	ACSB01.09

7	What will be the output of the program in Turb C (under DOS)?
	#include<stdio.h>
	int main()
	{
	int arr[5], i=0;
	while(i<5)
	arr[i]=++i;
	for(i=0; i<5; i++)
	printf("%d, ", arr[i]);
	return 0;
	}
		Garbage value, 1, 2, 3, 4,	Remember	CO 3	CLO12	ACSB01.12

8	What will be the output of the program ?
	#include<stdio.h>
	int main()
	{
	int arr[1]={10};
	printf("%d\n", 0[arr]);
	return 0;
	}
		10	Remember	CO 3	CLO12	ACSB01.12

9	What will be the output of the program if the array begins at address 65486?
	#include<stdio.h>
	int main()
	{
	int arr[] = {12, 14, 15, 23, 45};
	printf("%u, %u\n", arr, &arr);
	return 0;
	}
		65486, 65486	Remember	CO 3	CLO12	ACSB01.12

10	What will be the output of the	4	Remember	CO 3	CLO12	ACSB01.12

	program?
	#include<stdio.h>
	int main()
	{
	float arr[] = {12.4, 2.3, 4.5, 6.7};
	printf("%d\n",
	sizeof(arr)/sizeof(arr[0]));
	return 0;
	}					

11	What will be the output of the program if the array begins 1200 in memory?
	#include<stdio.h>
	int main()
	{
	int arr[]={2, 3, 4, 1, 6};
	printf("%u, %u, %u\n", arr,
	&arr[0], &arr); return 0;
	}
		1200, 1200, 1200	Remember	CO 3	CLO10	ACSB01.10

12	What will be the output of the following program ?
	#include<stdio.h>
	#include<string.h>
	int main()
	{
	char str1[20] = "Hello",
	str2[20] = " World";
	printf("%s\n", strcpy(str2,
	strcat(str1, str2)));
	return 0;
	}
		Hello World	Remember	CO 3	CLO10	ACSB01.10

13	What will be the output of the following program ?
	#include<stdio.h>
	int main()
	{
	char p[] = "%d\n";
	p[1] = 'c';
	printf(p, 65);
	return 0;
	}
		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

MODULE – IV						
1	#include<stdio.h> int main()	hello	Remember	CO 4	CLO14	ACSB01.14

	{
	char *p; p="hello";
	printf("%s\n", *&*&p);
	return 0;
	}					

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. v=504, z=504	Remember	CO 4	CLO14	ACSB01.14

5	What is output of the following code?
	#include<stdio.h>
	intmain()
	{
	int ***r, **q, *p, i=8; p =&i;
	q= &p; r = &q;
	printf("%d\n", ***r); return 0;
	}
		8	Remember	CO 4	CLO14	ACSB01.14

6	What is output of the following code?
	#include<stdio.h>
	int main()
	{
	intarr[2][2][2] = {10, 2, 3, 4, 5, 6, 7, 8};
	int *p;
	p = &arr[1][1][1];
	printf("%d\n", *p); return 0;
	}
		8	Remember	CO 4	CLO14	ACSB01.14

7	What is output of the following code?
	#include<stdio.h>
	int main()
	{
	Int arr[3] = {2, 3, 4}; char *p;
	p = arr;
	p = (char*)((int*)(p));
		2	Remember	CO 4	CLO14	ACSB01.14

	printf("%d, ", *p); return 0; }					

8	What is output of the following code?
	#include<stdio.h>
	#include<string.h>
	
	int main()
	{
	int i, n;*x = x[n];
	char *x="Alice";
	n = strlen(x);
	for(i=0; i<=n; i++)
	{
	printf("%s ", x); x++;
	}
	printf("\n", x); return 0;
	}
		lice ice ce e	Remember	CO 4	CLO14	ACSB01.14

9	What is output of the following code?
	void fun(int *p)
	{
	int q = 10; p = &q;
	}
	int main()
	{
	int r = 20; int *p = &r; fun(p);
	printf("%d", *p); return 0;
	}
		20	Remember	CO 4	CLO14	ACSB01.14

10	What is output of the following code?
	#include<stdio.h>
	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;
	}
		2	Remember	CO 4	CLO14	ACSB01.14

11	What is output of the following code?
	#include<stdio.h>
	int main()
	{
	int i, a[] = {2, 4, 6, 8, 10};
	change(a, 5);
	for(i=0; i<=4; i++)
	printf("%d, ", a[i]); return 0;
	}
	void change(int *b, int n)
	{
	int i;
	for(i=0; i<n; i++)
	*(b+1) = *(b+i)+5;
	}
		2, 15, 6, 8, 10	Remember	CO 4	CLO14	ACSB01.14

12	What is output of the following code? #include<stdio.h> char*strFun(void) { char *str="IncludeHelp"; return str;	IncludeHelp	Remember	CO 4	CLO14	ACSB01.14

	}
	int main()
	{
	char *x; x=strFun();
	printf("%s",x); return 0;
	}					

13	What is output of the following code?
	#include <stdio.h>
	int main()
	{
	int a[][3] = {1, 2, 3, 4, 5, 6};
	int (*ptr)[3] = a;
	printf("%d ", (*ptr)[1]);
	return 0;
	}
		2	Remember	CO 4	CLO 14	ACSB01.14

14	#include<stdio.h>
	int main()
	{
	int arr[] = {10, 20, 30, 40, 50, 60};
	int *ptr1 = arr;
	int *ptr2 = arr + 5;
	printf("%d.", (ptr2 - ptr1));
	return 0;
	}
		5	Remember	CO 4	CLO 14	ACSB01.14

15	int main( )
	{
	int s[4][2] = { { 1234, 56 },
	{ 1212, 33 },{ 1434, 80 },
	{ 1312, 78 } } ;
	int i, j ;
	printf ("%d ", *(*(s + 2) + 1));
	}
		80	Remember	CO 4	CLO 14	ACSB01.14

MODULE – V						

1	What is output of the following code?
	#include<stdio.h>
	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;
	}
		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	ACSBO1.16
3	What is the purpose of the function? Int ferror(FILE *fp)	They check for output errors	Remember	CO 5	CLO16	ACSBO1.1 6
4	stderr is similar to?	stdout	Remember	CO 5	CLO17	ACSBO1.1 7

5	What happens when we use? fprintf(stderr,"error:could not open filen");	The diagnostic output is directly displayed in the output	Remember	CO 5	CLO19	ACSBO1.1 9
6	Which function can be used to terminate the main function from another function safely?	exit(expr)	Remember	CO 5	CLO19	ACSBO1.1 9
7	What is the size of array "line" used in fgets(line, maxline, *fp) function?	maxline	Remember	CO 5	CLO19	ACSBO1.1 9
8	Which function has a return type as char pointer?	fgets()	Remember	CO 5	CLO19	ACSBO1.19
9	Write the right declaration for fgets inside the library?	char *fgets(char *line, int maxline, FILE *fp);	Remember	CO 5	CLO19	ACSBO1.1 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	#include <stdio.h>
	#include <stdlib.h>
	int main()
	{
	FILE *fp = stdout; int n;
	fprintf(fp, "%d", 45);
	}
		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 **HOD, ME**