(Printed Pages 4)

16/329-BE

B.Tech. (First Semester) Examination, 2016

Paper : ECS-101

(Computer Concept & Programming in C)

Time : Three Hours] *[Maximum Marks : 100*

Note : Attempt questions from **all** Sections as per instructions.

Section - A

Note : Attempt **all** parts of this question. Give answer of each part in about 50 words. 2×10=20

1. (i) What is digital computer?
   (ii) What is the function of operating system?
   (iii) Differentiate between printf ( ) and scanf ( ) functions.
   (iv) Convert the decimal number 12345.48 into its equivalent hexadecimal number.
   (v) Differentiate between source code and object code.
   (vi) How is a flowchart different from an algorithm?
   (vii) What do you understand by identifiers and Keywords?

P.T.O.

(viii) When will you prefer to work with a switch statement?

(ix) Differentiate between function declaration and function definition.

(x) Differentiate between ptr++ and *ptr ++.

Section - B

Note : Attempt **all** questions. Give answer of each question in about 200 words.

10×5=50

2. Explain the call by address technique of passing parameters to function.

OR

Explain various C operators.

3. Write a program to find the mean of n numbers using arrays.

OR

Explain different storage classes in C by taking suitable example.

4. Find errors in the following codes

(i)
```
# include < stdio.h>
main ( )
{
int i = 1,
while (i < = 10)
{
    i = 1;
Printf ("%d", i);
  i ++ ;
}
}
```


(ii)
```
# include < stdio. h>
main ( )
{
    int i, j;
for (i=1; j=0; i+j <
print f ("%d", i);
    j + = 2;
}
```

OR

Distinguish between

(i) break and conti

(ii) gets ( ) and sc

5. Write a program in
string from the ke
reverse order on

What is function
language? Expl
example.

6. Explain the i
processor dir

What is pr
significanc
compiler.

(ii)
```
# include < stdio. h>
main ( )
{
    int i, j;
for (i=1; j=0; i+j < = 10; i++)
print f ("%d", i);
    j + = 2;
}
```

OR

Distinguish between

(i) break and continue statement

(ii) gets ( ) and scanf( )

5. Write a program in C language to accept any string from the keyboard and display it in the reverse order on the screan.

OR

What is function? Why is its importance in C language? Explain with the help of a suitable example.

6. Explain the importance of the # define pre-processor directive.

OR

What is programming language? Explain the significance of an assembler, interpreter and compiler.

Section - C

Note : Attempt any **two** questions. Give answer of each question in about 500 words. $15 \times 2 = 30$

7. Write a program to print the following pattern.

```
        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
```

8. Explain the following :
   (i) Windows operating system
   (ii) Union
9. How can a pointer be used to access individual elements of an array? Illustrate with an example.
10. Write a program in C to add two matrices of 3×3.
11. Write short notes on any **two** of the following:
    (i) Pointers
    (ii) Structure
    (iii) Modular programming

(Printed Pages 4)

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16/325-BE

B.Tech. (First Semester) Examination, 2016

Paper : EAS-101

(Chemistry-I)

Time : Three Hours] *[Maximum Marks : 100*

Note : Attempt questions from **all** Sections as per instructions.

Section - A

(Very Short Answer Type Questions)

Note : Attempt **all** parts . Give answer of each part in about **50** words. 2×10=20

1. (i) Write the application of NMR.

   (ii) What do you understand by grass calorific value of fuels?

   (iii) What is soft and Hard water?

   (iv) What do you understand by the term 'Band fission'?

   (v) Explain why Ne_2 does not exist.

P.T.O.

(vi) What do you understand by the terms enantiomers and diastero isomers?

(vii) Give an example of invariant system.

(viii) What are free radicals?

(ix) Write the characteristics of Carbonium ions.

(x) What are co-polymers?

Section - B

(Short Answer Type Questions)

Note : Attempt **all** questions. Give answer of each question in about **200** words. $10 \times 5 = 50$

2. Describe Lambert - Beer's law.

OR

Discuss about the Zeolite treatment of water.

3. Describe the phase diagram of one component system with suitable example.

OR

Discuss mechanism of rusting of Iron.

4. What is meant by hydrogen bonding? Why do H_2O and HF have abnormally high boiling points?

OR

What is fuel cell? Explain with

5. A first order reaction is 2 minutes. Calculate the ti action to be 60% compl

OR

What are liquid crystal example.

6. Write notes on Indu

Explain the Absol of optical isomer

(Long Ans

Note : Attempt of each

7. Describe in the ion ment o

8. Discus bimo (Sn

OR

What is fuel cell? Explain with suitable example.

5. A first order reaction is 20% complete in 5 minutes. Calculate the time taken for the reaction to be 60% complete.

OR

What are liquid crystals? Discuss with suitable example.

6. Write notes on Inductive effect (I-effect).

OR

Explain the Absolute system of configuration of optical isomers with suitable example.

Section - C

(Long Answer Type Questions)

Note : Attempt any **two** questions. Give answer of each question in about **500** words.

$15 \times 2 = 30$

7. Describe the principle and procedure involved in the ion exchange resins process for the treatment of water.

8. Discuss the mechanism of unimolecular and bimolecular nucleophillic substitution reaction (Sn^1 & SN^2) with suitable example.

9. What is electrode concentration cell? Calculate the EMF of electrode concentration cell: Pt; $H_2(P_1)$, HCl, H_2 (P_2); Pt at 25°C, (If P_1 = 600 torr and P_2 = 400 torr)

10. What is optical isomerism? Discuss the optical isomerism of Tartaric Acid.

11. Write short notes on any **three** of following :

    (a) Aldol condensation reaction.

    (b) Write preparation properties and uses of following polymers.

        (i) Polythene

        (ii) Polystyrene

    (c) Molecular orbital diagram of N_2 molecule.

    (d) Mesomeric effect.

    (e) Ultimate analysis of coal.