University Institute of Engg. and Technology, Panjab Univeristy, Chandigarh

CSE 2nd Sem (S1+S2) Minor –I

Time: 90 min **M.M: 30**

Subject: Object Orient Programming

Section A (4x3=12)

Qus1. Differentiate procedure oriented and object oriented programming languages.

Qus2. What is the difference between private, public & protected access specifiers?

Qus3. How the ambiguity can be resolved in multiple inheritance?

Qus4. Write note on new, delete, scope resolution operators.

Section B

Qus5.Explain the properties of friend functions with one example. 5

Qus6. Explain with one example the function overloading. 5

Qus7.Write note on following:

(1) Copy constructor (2) Static data member & member functions

(3) Properties of constructor & destructor (4) Recursion (8)

University Institute of Engineering & Technology, Chandigarh

Minor I

Course:- MATHS201 : Differential Equations and Transforms *Dated: 06.03.2017*

Class: BE CSE (Section I & II) Semester-II *Time: 1hr. 30 min.*

Note: Attempt all the questions. Each question is of 05 marks.

Q1. Find $f(t)$ if $\mathcal{L}(f) = cot^{-1}\frac{s}{w}$

Q2. Solve $y(t) + 2\int_0^t y(\tau)\cos(t-\tau)\,d\tau = \cos t$.

Q3. Find the general integral of the equation $(x-y)p + (y-x-z)q = z$ and the particular solution through the circle $z = 1, x^2 + y^2 = 1$.

Q4. If u is a function of x, y and z which satisfies the PDE

$$(y-z)\frac{\partial u}{\partial x} + (z-x)\frac{\partial u}{\partial y} + (x-y)\frac{\partial u}{\partial z} = 0$$

show that u contains x, y and z only in combinations $x+y+z$ and $x^2+y^2+z^2$.

Q5. Using reduction of order find a basis of solutions of the ODE $(x^2-x)y'' - xy' + y = 0$.

Q6. Solve $x\frac{dy}{dx} + y = x^3y^6$.

SESSIONAL 1 / COMMUNICATION SKILLS / BE -BT , CSE , IT 2nd Semester

Note: Attempt all the questions (each sub part of question 1 carries 1 mark)

Q1. i) Convert to passive voice "The mason is building the wall "

ii) Write a sentence to illustrate the meaning of the preposition " behind"

iii) Write one word for " one who writes a novel"

iv) Convert to present continuous " I eat food"

v) What is the antonym for " exciting"

vi) Write a sentence to illustrate the meaning of the phrase " to live from hand to mouth "

vii) Write a sentence to illustrate the meaning of the article "the"

viii) Write two ways in which you can overcome stage fright

ix) Write two qualities that will enable you to succeed in an interview

x) Define "Body Language"

Q2. How does communication takes place in organizations ? What is a networked organization ? Illustrate the communication between the organization and any three entities in the network. (10)

Q3. You are a highly educated individual who has decided to adopt a village and help and educate the villagers in all possible ways. Write a paragraph in 500 words as to how you will go about helping the villagers? You have funds of ₹15 lacs ? Also make a table and Illustrate how you will utilize the funds category vise. The contents of the table will not be included in the word limit .(10)

University Institute of Engineering & Technology
Minor-I Applied Chemistry (CSE)
2nd Sem 2016-17

M.M. 30
Time: 90 min

Note: Do any three questions. Q-1 is compulsory.

1. (a) What are bathochromic and hypsochromic shifts? [2]
(b) Write a note on flame temperature. How it can be calculated? [2]
(c) Explain why enthalpy of neutralization in the case of weak acid/strong base is smaller than that of strong acid/strong base. [2]
(d) Give the mechanism of heterogeneous catalysis. [2]
(e) What are catalytic promoters and catalytic inhibitors, give at least one example of each type. [2]

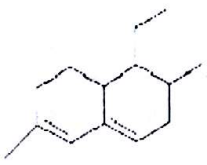
2. (a) How oxo process is different from Wacker process? Explain the mechanism of wacker process in detail. [5]
(b) Derive Michaelis-Menton's equation for enzyme catalyzed reactions. [5]

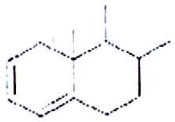
3. (a) Define Heat capacity. Derive relationship between C_p and C_v. [2]

(b) The molar hear capacities at consyant pressure of $H_2(g)$, $Cl_2(g)$ and HCl(g) are 29.3, 34.7, and 28.9 JK^{-1}. If the heat of formation of HCl (g) at constart pressure at 293 K is -91.2 KJ, what will be its heat of formation at 313 K [3]

(c) Explain the working of Carnot cycle. How it is used to calculate the efficiency of an heat engine. [5]

4. (a) Calculate the λ_{max} for the following compounds

(i) 

(ii)  [4]

(b) Butadiene shows absorption at higher wavelength than ethylene. Explain with the help of molecular orbital diagram and Ψ function. [4]

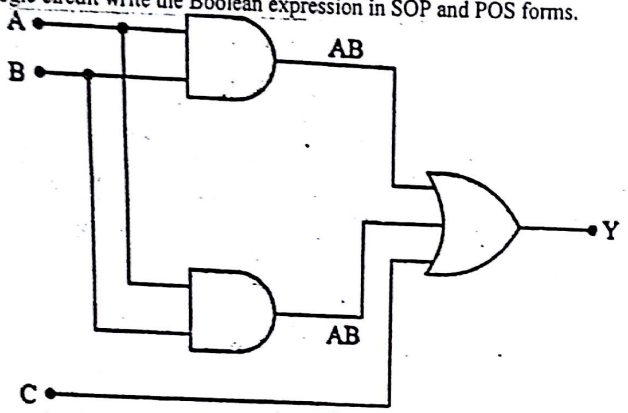
(c) Define and explain Lambert-Beer's Law. [2]

B.Engg.2nd Semester (Computer Science Engineering)
Paper CS203: Digital Electronics & Logic Design

Time Allowed: 1.5 Hours | Max. Marks: 30

Note:-Attempt all questions. There is internal choice in Q. No 3.

Q1. a) For the logic circuit write the Boolean expression in SOP and POS forms.



b) Draw the gate implementation of the following Boolean function:
F(A,B,C) = A'C+A'B+AB'C+BC using NOR gates only.

c) Design a combinational circuit which has four inputs and one output. The output is equal to 1 when:
   i) All the inputs equal to 1. or
   ii) None of the inputs equal to 1.
   iii) An odd number of inputs are equal to 1.
Draw the logic circuit using minimum number of NAND gates only.

Q2. a) Design a circuit that will generate an odd parity bit for 4-bit input and implement it using only EX-NOR gates. (03+03+05)
b) Explain Carry –ripple problem. Explain how this problem is solved through carry-look ahead adder circuit.

Q3. a) Using Quine - McClusky minimization method. Obtain the minimal expression for (06+06)
$f = \sum m(6,7,8,9) + d(10,11,12,13,14,15)$. Verify your answer with K-map method.

OR

b) Using Quine - McClusky minimization method. Obtain the minimal expression for
$f = \pi M(2,3,8,12,13) . d(0, 14)$. Verify your answer with K-map method.

(07)