MONSOON SEMESTER EXAMINATION, SESSION 2019-20
Indian Institute of Technology (ISM), Dhanbad

Examination: I Sem Common (Sections: E, F, G & H) Max Marks: 100
Subject: Computer Programming (CSC 11101) Time: 3 Hours

Instructions:

i. Attempt questions belong to the same Section at same place.
ii. Answer each Section (I, II, III & IV) in SEPARATE ANSWER BOOK.

Section – I

Marks: 20

1. State the significance of default statement in switch case? Explain with suitable example. 2
2. How **Structure** and **Union** are different from each other, discuss with an example? 2
3. Discuss the difference between **array of pointer** and **pointer of array** with an example? 2
4. Discuss different storage classes of C in detail? 4
5. How **realloc** is different from **malloc** and **calloc**, explain with suitable example. 3
6. What is the difference between rewind(fp) and fseek(fp, 0L, 0), where fp is a file pointer? 2
7. Define **data abstraction** and **data encapsulation**. 2
8. How does **structure** of C is different from class of C++. 3

Section – II

Marks: 40

Part – I: Find out the output of the following programs. **Assume that all header files are properly included.** 10 * 02 = 20

1.
```
int main()
{ int i=0;
  for(i=0; i<20; i++)
  { switch(i)
    { case 0: i+=5; case 1: i+=2; case 5: i+=5;
      default: i+=4; break; }
    printf("%d ", i); } return 0; }
```

2.
```
int main()
{ int i = 1, 2, 3; int j= (1, 2, 3);
  printf("i = %d, j = %d\n", i, j);
  return 0; }
```

3.
```
int main()
{ char a[] = { 'A', 'B', 'C', 'D' };
  char* ppp = &a[0];
  *ppp++;                                  // Line 1
  printf("%c %c ", *++ppp, --*ppp);   // Line 2
  return 0; }
```

4.
```
int main()
{ int a = 36;                    // address of a = 4000
  int* ptr; ptr = &a;
  printf("%u %u", *&ptr, &*ptr); return 0; }
```

5.
```
int main()
{ int i = 25;                    // address of i = 4000
  int* j;                        // address of j = 6000
  int** k;                       // address of k = 8000
  j = &i; k = &j;
  printf("%u %u %u ", k, *k, **k); return 0; }
```

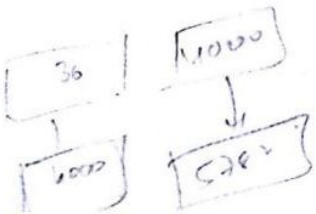
6.
```
int main(){ int arr[5];
  // Assume base address of arr is 2000 and size of integer
  is 32 bit
  printf("%u %u %u", arr, arr + 1, &arr + 1); return 0; }
```

7.
```
int main()
  {char s[]="hello", t[]="hello";
  if(s==t){printf("eqaul strings");}
  return 0;}
```

8.
```
int main()
  { char* p = "mayhem"; char c; int i;
    for (i = 0; i < 3; i++) { c = *p++; }
    printf("%c", c); return 0; }
```

9.
```
int main()
  { FILE* pFile; char c;
    pFile = fopen("sample.txt", "wt");
    for (c = 'A'; c <= 'E'; c++) { putc(c, pFile); }
    fclose(pFile); return 0; }
```

10.
```
int main()
  { int x = -10; while (x++ != 0) ;
    printf("%d ", x); return 0; }
```



Part – II: Find out the errors in the following programs. If there is no error then write the output. Assume that all header files are properly included. 10 * 02 = 20

1. int main()
{ int x = 10; static int y = x;
if(x == y) printf("Equal");
else if(x > y) printf("Greater");
else printf("Less");
return 0; }

2. int main()
{ int i; for (i = 1; i != 10; i += 2) { printf(" ABC "); }
return 0; }

3. struct st { int x; struct st next; };
int main()
{ struct st temp; temp.x = 10;
temp.next = temp; printf("%d", temp.next.x);
return 0; }

4. int main()
{ int i = 0; while (i <= 4)
{ printf("%d", i); if (i > 3) goto inside_foo; i++; }
return 0; }
void foo()
{ inside_foo: printf("PP"); }

5. int main()
{ int arr[5];
// Assume that base address of arr is 2000
and size of integer is 32 bit
arr++; printf("%u", arr); return 0; }

6. int main()
{ unsigned char ch; FILE *fp;
fp=fopen("trial", "r");
while((ch = getc(fp))!=EOF) printf("%c", ch);
fclose(fp); return 0;}

7. int main()
{ int x[10]={0,1,2,3,4,5,6,7,8,9};
int *ptr1,*ptr2; ptr1=&x[0]; ptr2=&x[5];
printf("%p\n",(ptr1+ptr2)); return 0; }

8. void test(struct number n)
{ n.x=100; }
struct number{ int x; };
int main()
{ struct number num; test(num);
printf("%d\n",num.x); return 0; }

9. int main()
{ struct site { char name[] = "ABC";
int no_of_pages = 200; };
struct site *ptr; printf("%d ", ptr->no_of_pages);
printf("%s", ptr->name); return 0; }

10. #define MAX 1000
int main()
{int MAX = 100; printf("%d",MAX);
return 0; }

Section – III

Marks: 25

1. Write a C program to calculate the sum of rows, columns and diagonals elements of a 2D array A and store results in a 1D array B. Find the maximum from array B? 5
2. Write a C program to print GCD of Two Numbers using Recursion. 5
3. Define a structure called cricket that will describe the following information: Player name, Team name and Batting average. Using cricket, declare an array player with 50 elements and write a C program to read the information about all the 50 players and print a team-wise list containing names of the players with their batting average. 5
4. Write a C program to sort an array using Pointer. 5
5. Write a C program to find the sum of N integer numbers using command line arguments. 5

Section – IV

Marks: 15

1. Write a C Program to remove Duplicate Element in an Array. 5

   OR

   Write a C Program to Swap Numbers in Cyclic Order Using Call by Reference. 5

2. Write a C Program to Add Two Complex Numbers by Passing Structure to a Function. 5

   OR

   Write a C program for passing structures as function arguments and returning a structure from a function. 5

3. Write a C Program to Read a Line from a File and Display it. Append the line in a new file if the number of characters (including space) is odd. 5

   OR

   Write a C program to print contents of a file in reverse order. 5

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Indian Institute of Technology (Indian School of Mines) Dhanbad

END-SEMESTER EXAMINATION, MONSOON: 2018-19

Subject: Chemistry (Common) (ACC 11101) for B. Tech 1st year

Use separate sheet for Part I, II and III

Marks: 100 **Time: 3 h**

Q. No.	**Part-I (34 marks):** Answer **ALL** questions	Marks
1	Clausius-Clapeyron relation can be expressed as $\frac{dP}{dT} = \frac{\Delta H}{T\Delta v}$ where, ΔH is the specific change in enthalpy T is the specific temperature, and Δv is the specific change in volume	
	a) Find out the integrated form of Clausius-Clapeyron equation.	3
	b) Therefore, find out the vapour pressure of 1-propanol at 14.7 °C, if the vapour pressure is 100.2 torr at 52.8 °C. Given that heat of vapourization of 1-propanol = 47.2 kJ mol^{-1}.	4
	or	
	For a first order reaction, opposed by another first order reaction of the type $A \underset{K_b}{\overset{K_f}{\rightleftharpoons}} B$ @t= 0, $[A]_0$ 0 @t= t, [A] [B] derive the differential rate law, integrated rate law and find the concentration of A and B at any time 't'.	7
2	a) Draw the phase diagram for a liquid-liquid binary system consisting both UCST (Upper Consolute Solution Temperature) and LCST (Lower Consolute Solution Temperature).	2
	b) Draw the Phase diagram of KI-water system.	2
	c) Draw the phase diagram of Ag-Pb system.	2
	or	
	a) Write the anodic, cathodic and the overall cell reactions of Methanol-water fuel cell.	3
	b) What range should a voltmeter have (in volts) to display change of pH from 1 to 14 at 25 °C if it is arranged to give a reading of 0 when pH = 7?	3
3	a) Find out the relation between change in entropy and change in enthalpy with the EMF of a cell.	2+2 = 4
	b) Write a short note on glass electrode, explaining how pH of a solution can be measured using it.	5
	c) Write the anodic, cathodic and overall cell reactions for charging a Pb-Acid battery.	3
	d) Write the anodic, cathodic and overall cell reactions for discharging an Ni-Cd battery.	3
4	For a consecutive reaction of the type $A \xrightarrow{K_1} B \xrightarrow{K_2} C$ @t= 0, $[A]_0$ 0 0 @t= t, [A] [B] [C] at any time 't' the concentration of B is given by $[B] = [A]_0 \left(\frac{K_1}{K_2 - K_1}\right)(e^{-K_1 t} - e^{-K_2 t})$	

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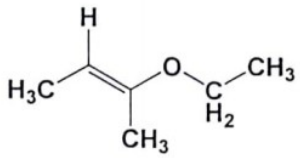
	and that of C is given by $[C]=[A]_0\left\{1-\frac{1}{K_2-K_1}\left(K_2e^{-K_1t}-K_1e^{-K_2t}\right)\right\}$ a) Show that for $K_2 >> K_1$, the reaction rate does not depend on K_2. b) Hence for two conditions, $K_2 >> K_1$ and for $K_1 >> K_2$, plot the changes in concentrations of A, B, C respectively with respect to time 't'.	2 2+2 = 4
	Part-II (33 marks): Answer **any three** questions	
1.	a) Obtain the ground state spectroscopic term symbol for the Cr^{3+} ion in the gaseous state. Show the splitting pattern of this spectroscopic state in an octahedral field. Identify the electronic configuration corresponding to each spectroscopic state. b) What are the selection rules for electronic transition? c) What is Jahn-Teller distortion? Illustrate with a suitable example.	5 3 3
2.	a) Calculate the vibrational stretching frequency of C≡O and >C=O in cm^{-1} if the force constants are 18×10^5 *dynes/cm* and 5×10^5 *dynes/cm* respectively. (At. Wt. of O =16, C =12) b) A solution containing 3.75 mg/100 mL of X (220 g/mol) has an absorbance of 0.402 in a 1.50 cm cell at 425 nm. Calculate the molar absorptivity of X at this wavelength. c) Draw the high resolution ^{1}H-NMR spectrum of the following compound? 	4 3 4
3.	a) Draw the lattice planes with the Miller indices (220) and (121) in a cubic lattice, clearly indicating the unit cell axes. b) Unit cell edge length of a CsCl lattice is 387 pm. Calculate (a) the distance between the oppositely charged ions in the lattice, and (b) the radius of the Cs^+ ion if the radius of the Cl^- ion is 181 pm. c) Calculate the *d*-spacing for the Miller plane (321) of a tetragonal lattice of TiO_2 with cell parameters $a = b = 4.5$ Å, $c = 3.0$ Å.	4 4 3
4.	a) Calculate the CFSE and spin only magnetic moment for the complex $[Co(X_3)(Y_3)]$. Where X is a neutral mono dentate ligand and Y is a uni-negative mono dentate ligand. Given Δo is 15000 cm^{-1} and pairing energy is 17000 cm^{-1}. b) The ^{1}H-NMR spectrum of a compound measured in a 100 MHz instrument, gives a signal at 3.0 ppm from the signal of the reference compound, TMS. Calculate the shift of the signal in Hz from the TMS if measured in a 500 MHz instrument. c) Calculate the λ_{max} value for the following compound.	4 4 3

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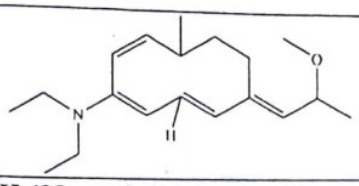
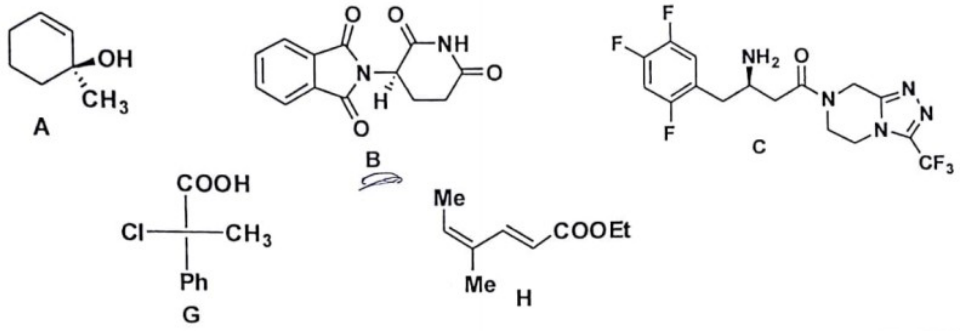
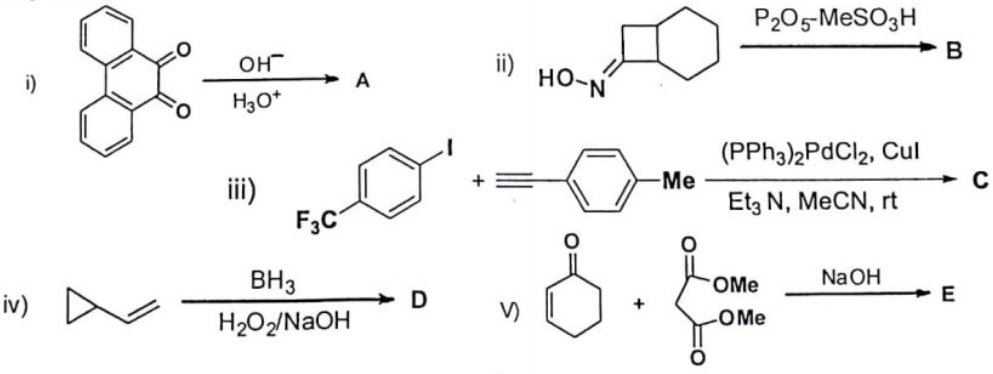


Part-III (33 marks) Answer **ALL** questions

1.	Write down the procedure to separate out enantiomerically pure (+) $CH_3CH(Ph)NH_2$ from its corresponding racemic mixture.	4
2	Nomenclate the molecules with R/S (for A, B & C), D/L (for G) and E/Z (for H) notations. 	5 × 1 = 5
3	Write short note on the following name reactions with possible mechanism (**any four**). i. Cannizzaro Reaction ii. Suzuki Coupling iii. Pinacol-Pinacolone rearrangement iv. Wittig Reaction v. Grignard Reaction vi. Reimer-Teimann Reaction	4 × 4 =16
4	Write the products (**A-E**) and mention the Name reaction involved in the products formation (**any four**) 	4 × 2 = 8

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Semester: Monsoon
Course: First B.Tech. (Common)
Subject: Mathematics-I
Instructions: (1) Use separate answer sheet for each part.
(2) Figures in the margin indicate full marks.

Session: 2018-19
Max. Marks: 100
Time: 3:00 Hours

PART-1 (Differential Calculus), 33 Marks

Questions from 1-3 are compulsory and attempt any two from the rest.

1. Discuss the maximum and minimum of $f(x,y) = x^3 + y^3 - 3axy$. (7)
2. Find all the asymptotes of the curve $y^3 - xy^2 - x^2y + x^3 + x^2 - y^2 = 0$. (7)
3. If $r^2 = x^2 + y^2 + z^2$ and $v = r^3$ then find the value of $\frac{1}{yz}\frac{\partial^2 v}{\partial y \partial z} + \frac{1}{xz}\frac{\partial^2 v}{\partial z \partial x} + \frac{1}{xy}\frac{\partial^2 v}{\partial x \partial y}$ in terms of r. (7)
4. Expand e^{xy} at (1,1) using Taylor series expansion up to second degree terms. (6)
5. Find the radius of the curvature for the curve $x = a(cost + t\sin t)$, $y = a(sint - t\cos t)$ at $t = \pi/4$, where a is a constant. (6)
6. Trace the curve $y = x/(1+x^2)$. (6)

Part-II

(Calculus II: 33 Marks)
Question Nos. 1-3 are compulsory. Attempt any **Two** from the rest.

Q. No.	Questions	Marks
1	Discuss the convergence of $\int_0^\infty \frac{x^{n-2}}{1+x}dx$.	6
2	Show that $\int_0^{\pi/2} \frac{\sin^{2m-1}\theta.\cos^{2n-1}\theta}{(a\sin^2\theta + b\cos^2\theta)^{m+n}}d\theta = \frac{1}{2a^m b^n}\beta(m,n)$.	6
3	Find the area common to the two cardioids $r = 2(1-\cos\theta)$ and $r = 2(1+\cos\theta)$. [Area= $\iint_R r dr d\theta$]	7
4	Using the technique of differentiation under integral sign evaluate $\int_0^{a^3} \cot^{-1}(\frac{x}{a^3})dx$.	7
5	Find the mass of ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$, given that the density at each point is constant. [Mass= $\iiint_S f(x,y,z)dxdydz$]	7
6	Evaluate the integral $\iint_R (x-y)^2\cos^2(x+y)dxdy$, where R is the rhombus in the xy-plane with successive vertices at $(\pi,0),(2\pi,\pi),(\pi,2\pi)$ and $(0,\pi)$ using the transformation $y-x=u$ and $y+x=v$.	7

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Part-III (34 **Marks**)

(Trigonometry, Algebra and 3-Dimensional Geometry)

Instructions: Question Nos. **1**and **2** are compulsory. Attempt any **one** from the rest.

Q. No.	Questions	Marks
1 a).	Find the general solution of $\sin z = 2$	6
b).	If $\sin(\alpha + i\beta) = x + iy$, then prove that $\frac{x^2}{\sin^2\alpha} - \frac{y^2}{\cos^2\alpha} = 1$	7
2a).	State and prove the necessary condition for convergence of a positive term series.	6
b).	Find the equation of the cone whose vertex is the origin and base is the circle $y = 2, x^2 + z^2 = 9$	7
3a).	Test for convergence of the series $\sum_{i=0}^{\infty} \frac{2n^3 + 2}{4n^5 + 3}$	3
b).	Find the equation of the cylinder whose generators are parallel to the line $x = \frac{y}{-3} = \frac{z}{2}$ and guiding curve is $y^2 + 2z^2 = 1,\ x = 3$	5
4a).	Test for convergence of the series $\sum_{i=1}^{\infty} \frac{n}{1+2^n}$	4
b).	Find the equation of the right circular cylinder of radius 2, whose axis passes through (1,2,3) and has direction ratios (2,1,2).	4

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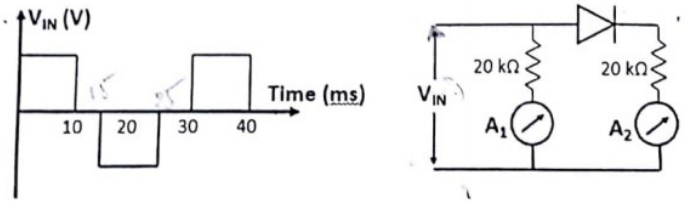
ELECTRONICS ENGINEERING DEPARTMENT IIT (ISM) DHANBAD
SEMESTER MONSSON 2018-1019

EXAMINATION: END SEMESTER EXAMINATION
SEMESTER B.TECH. 1ST SEMESTER (GROUP E, F, G, H)
SUBJECT: ECC 11101 ELECTRONIC ENGINEERING

TIME: 3 HRS
MAX MARKS: 100

INSTRUCTIONS: ANSWER ALL QUESTIONS FROM PART I, AND ANY TWO QUESTIONS FROM PART II.
MAKE SUITABLE ASSUMPTIONS WHEREVER NECESSARY

PART I

Q. 1	State whether the following statements are **TRUE or FALSE (T/F).** Give appropriate reasoning (R) for your answer in brief. a. An ideal op amp has voltage gain of the order of 10^6 A/A. b. Waveforms can be shaped easily by using a combination of diode, capacitor and battery. c. A rectifier converts alternating current into a unidirectional current. In a half-wave rectification with input voltage $V_m Sin\omega t$ and a resistive load R_L, the dc current $I_{dc} \approx V_m/\pi R$. d. In a digital circuit we have the output given as $\overline{(\bar{A} + \bar{B})} + \bar{C}$. This expression is equivalent to BC + AC. e. The number $(5F)_{16}$ is equivalent to $(96)_{10}$.	5X(1(T/F)+3(R)) = 20 Marks
Q.2 (a)	The signal V_{IN} is applied to the circuit shown in Figure 1. Predict the reading on the two meters A_1 and A_2, if they are DC ammeters.  Figure 1	10 marks
Q.2 (b)	A four-variable logic function comprises of following max-terms: $\prod$ M (3,7,9,13,15). Deduce the minimized SOP form using k-map. Draw the corresponding logic circuit.	10 marks
Q3 (a)	A Silicon semiconductor doped with 10^{17} cm^{-3} phosphorus atoms has been used to design a humidity sensor. In May 2018, the sensor was tested at Delhi, India (35 °C); Aziziyah, Libya (50 °C); Melbourne, Australia (14 °C) and Talvik, Norway (-5 °C). Numbers inside the parenthesis represent the temperature of the place. When an electric field of 1 MV/m was applied, 16 kA/cm^2 current density was observed in the Silicon sensor. Assuming the diffusivity to be independent of temperature, in which place/city the measurement was performed? ~~Electron mobility 0.135 m^2/V.S, Hole mobility 0.048 m^2/V.S.~~	10 marks

$D_n = 2.18\ cm^2/s$, $D_p = 1\ cm^2/s$

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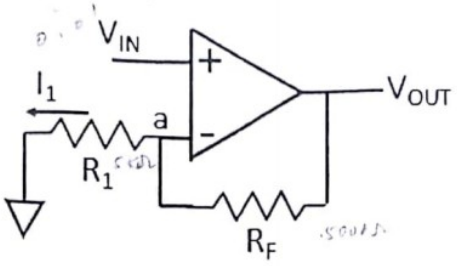
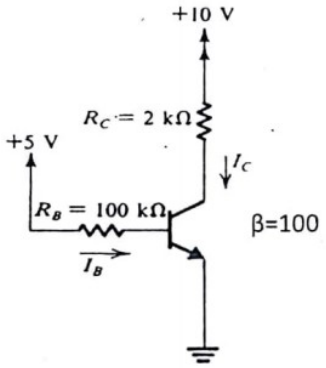
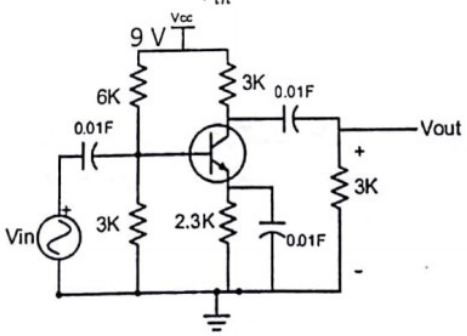
Q. 3 (b)	An ideal op-amp amplifier is shown in Figure 2, where R_1 = 5 kΩ and R_F = 500 kΩ. Evaluate the voltage gain V_{OUT}/V_{IN}. For an input voltage V_{IN} = 0.01 V, what is V_a and I_1?  Figure 2	10 marks
	PART II	
Q.4 (a)	For the circuit shown in Figure 3, determine the currents I_B, I_C, I_E and V_{CE}. Assume V_{BE}= 0.7 V, V_T= 25 mV.  Figure 3	10 marks
Q. 4 (b)	A CE amplifier circuit is shown in Figure 4. Assume V_{BE}= 0.7 V, V_T= 25 mV. i. Find the DC collector current (I_C) and the collector to emitter voltage (V_{CE}). ii. Draw the small signal equivalent circuit. iii. Evaluate the mid-band voltage gain $\frac{V_{out}}{V_{in}}$  Figure 4	10 marks

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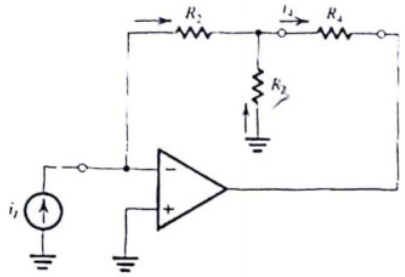
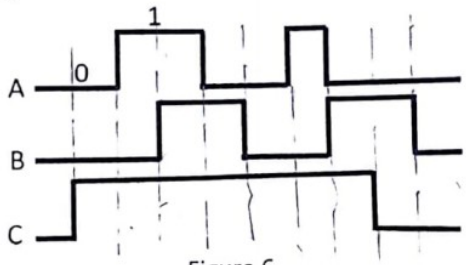
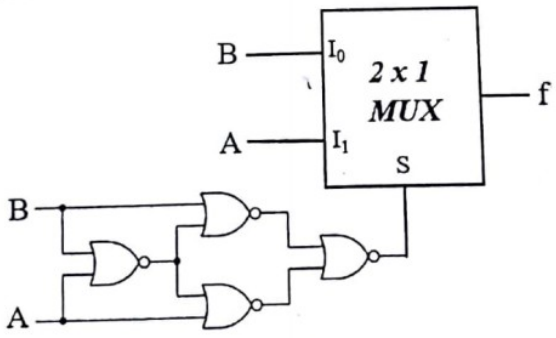
Q5 (a)	Design an op-amp adder circuit to give an input-output relationship of: $V_{out} = 4V_1 + 5V_2$, where V_1 and V_2 are voltages applied toward the inverting and non-inverting terminal respectively. Assume the value of feedback resistor as 100 KΩ.	10 marks
Q. 5 (b)	For the circuit shown in Figure 5, show that $i_4 = i_1 (1+\frac{R_2}{R_3})$. Assume the op amp to be ideal.  Figure 5	10 marks
Q6 (a)	Using the following waveforms shown in Figure 6, draw the waveform of X, where If X = AC + B',  Figure 6	10 marks
Q6 (b)	Using the above wavefunctions A and B, draw the waveform of f for the logic circuit in Figure 7..  Figure 7	10 marks

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(M)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES) DHANBAD
END SEMESTER: MONSOON, SESSION: 2018-2019

Examination: I B.TECH (COMMON)
Course Title: ENGLISH FOR SCIENCE AND TECHNOLOGY **Course Code: HSC11101**
TIME: 3 Hours **M.MARKS: 100**

Instructions: Answer ALL the Questions.

1. Read the following passage and answer the questions that follow: **(20)**

Many great inventions are initially greeted with **ridicule** and disbelief. The invention of the airplane was no exception. Although many people who heard about the first powered flight on December 17, 1903 were excited and impressed, others reacted with peals of laughter. The idea of flying an aircraft was repulsive to some people. Such people called Wilbur and Orville Wright, the inventors of the first flying machine, **impulsive** fools. Negative reactions, however, did not stop the Wrights. Impelled by their desire to succeed, they continued their experiments in aviation.

Orville and Wilbur Wright had always had a **compelling** interest in aeronautics and mechanics. As young boys they earned money by making and selling kites and mechanical toys. Later, they designed a newspaper-folding machine, built a printing press, and operated a bicycle-repair shop. In 1896, when they read about the death of Otto Lilienthal, the brothers' interest in flight grew into a compulsion.

Lilienthal, a pioneer in hang-gliding, had controlled his gliders by **shifting** his body in the desired direction. This idea was **repellent** to the Wright brothers, however, and they searched for more efficient methods to control the balance of airborne vehicles. In 1900 and 1901, the Wrights tested numerous gliders and developed control techniques. The brothers' inability to obtain enough lift power for the gliders almost led them to **abandon** their efforts.

After further study, the Wright brothers concluded that the published tables of air pressure on curved surfaces must be wrong. They set up a wind tunnel and began a series of experiments with model wings. Because of their efforts, the old tables were **repealed** in time and replaced by the first **reliable** figures for air pressure on curved surfaces. This work, in turn, made it possible for the brothers to design a machine that would fly. In 1903 the Wrights built their first airplane, which cost less than $1,000. They even designed and built their own source of propulsion-a lightweight gasoline engine. When they started the engine on December 17, the airplane pulsated wildly before taking off. The plane managed to stay aloft for 12 seconds, however, and it flew 120 feet.

By 1905, the Wrights had perfected the first airplane that could turn, circle, and remain airborne for half an hour at a time. Others had flown in balloons and hang gliders, but the Wright brothers were the first to build a full-size machine that could fly under its own power. As the contributors of one of the most **outstanding** engineering achievements in history, the Wright brothers are **accurately** called the fathers of aviation.

a. The idea of flying an aircraft was _____ to some people. **(1)**

i. boring
ii. distasteful
iii. exciting
iv. needless

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v. Answer not available (1)

b. People thought that the Wright brothers had _____.
i. acted without thinking
ii. been negatively influenced
iii. been too cautious
iv. been mistaken
v. acted in a negative way (1)

c. The Wrights' interest in flight grew into a _____.
i. financial empire
ii. plan
iii. need to act
iv. foolish thought
v. Answer not available

d. Lilienthal's idea about controlling airborne vehicles was _____ the Wrights. (1)
i. proven wrong by
ii. opposite to the ideas of
iii. disliked by
iv. accepted by
v. improved by

e. The old tables were _____ and replaced by the first reliable figures for air pressure on curved surfaces. (1)
i. destroyed
ii. invalidated
iii. multiplied
iv. approved
v. not used

f. The Wrights designed and built their own source of _____. (1)
i. force for moving forward
ii. force for turning around
iii. turning
iv. force for going backward
v. None of the above

g. Find synonyms of the following words from the passage: (5)
i. Caricature
ii. Spontaneous
iii. Captivating
iv. Leave
v. Cancel

h. Find antonyms of the following words from the passage: (5)
i. Sameness
ii. Agreeable
iii. Unreliable
iv. Ordinary

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v. Inaccurate

1. Make sentences with the following words from the passage: (4)

i. reliable
ii. outstanding
iii. ridicule
iv. impulsive

2. Edit the following sentences to make them grammatically correct: (20)

a) Raj had not expected to loose so much money at the horse races.
b) I bought you this chocolate because your a very good boy.
c) The teacher was impressed with I and Mark.
d) Irregardless of what you think, I am going to drive this car.
e) Priya has a bad habit of peaking into other people's copies.
f) The juggler and dancer are going to arrive soon.
g) Although it was sunny, but I carried an umbrella just in case.
h) Yedi is a man that loves his work more than anything else in the world.
i) The principle of Thames school is very strict; all the students are scared of him.
j) I have been thinking of visiting them, but there house is too far away.
k) I can ensure you that he is a hardworking fellow and shall be an asset for your firm.
l) I would like to talk to you so please tell me if you have a free time.
m) Remember that I have a four months old son at home.
n) She is a success person and an inspiration for her peers.
o) We travelled to New York ten years before.
p) I would rather to work from home than come to the office.
q) How long time did you work in the public sector?
r) Our office is near to the airport, so it will be easy for you to get here.
s) Despite I was tired, I came to work today.
t) I came to school with the bus today.

3. Write one sentence definition of the following: (5)

i) Pen ii) Duster iii) Coal iv) Diamond v) Thermometer

4. Change the following sentences into impersonal passive form. (5)

i. People believe that he lied in court.
ii. They expect him to arrive soon.
iii. They say that might is right.
iv. One finds mosquitoes everywhere.
v. He gave us a cheque.

5. Rearrange the following sentences in their proper order. (5)

i. one ever/ nothing can/ of disappointments/ no/ be achieved/ realizes that/ without a lot.
ii. was still/ facilities/ I last/ town it/ when/ undeveloped/ visited this/ and lacked.
iii. the persons/ oppose these/ most of/ dishonest nor/ are neither/ but lack/ cheats/ the force to/ evils.
iv. the photograph/ were married/ had not/ until we/ of my wife/ I/ seen.
v. there/ is not/ life/ living if/ is no/ freedom/ worth.

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6.The following sentence is the topic sentence of a paragraph. Build a short paragraph with a concluding sentence. (10)

'Technology is making people lazy'

7. Join the following set of sentences into a meaningful sentence. Where required join the sentences using relative clause. (10)

i. I have to support my family. I want to find a job.
ii. I put in my best clothes. I wanted to impress her.
iii. The workers finished their work. They left for home.
iv. The boy solved the puzzle. He was praised by the teacher.
v. The dog bit the burgler. He was trying to break into the house.

8. Paraphrase the following passage: (5)

Automobile technology may be delivering another radical economic and social change through the shift from gasoline to hydrogen fuel. By breaking hydrogen into protons and electrons so that the electrons run an electric motor with water vapour as the only by-product, fuel cells could make the car a "green" machine. But this technology could also increase the automobile's safety, comfort, personal tailoring, and affordability. Moreover, this shift to fuel-cell engines in automobiles could lead to dramatic environmentally friendly changes in the broader energy industry, an industry that will be tied to hydrogen rather than to fossil fuels. The result of this shift will be radical changes in the way we use and produce energy. In other words, the shift to clean technology and hydrogen powered vehicles could maintain society's valued mobility while preserving the environment and earth's natural resources.

9. Read the following passage and make notes: (10)

WikiLeaks has proven a rich source of news, however tenuous its journalistic status. WikiLeaks certainly thinks of itself as doing the work of journalism, as evidenced in Julian Assange's comment: "It is the role of good journalism to take on powerful abusers, and when powerful abusers are taken on, there's always a bad reaction. So we see that controversy, and we believe that it is a good thing to engage in" (Noble, 2014, p.1). WikiLeaks' inherent structure, principally anonymity, is in fact antithetical to journalism and leaves the organization an odd blend of information leaker, newsmaker, editorializer, self-styled journalist, and general unclassified news medium.

10. Classify the following items in a tree diagram and write a specific to general description of the same. (10)

matter, pure substances, elements, compounds, mixtures, homogeneous, heterogeneous

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