Department of Information Technology, UIET

C.S.J.M UNIVERSITY, KANPUR

Physics- I (PHY-S101)

Semester: 2023-24 (Odd Semester) Year: 2023

FIRST MID SEMESTER EXAMINATION

Time:1.5 hrs Maximum Marks:20

All questions are compulsory:

Section A

1. Attempt all questions: (8×1=8)

a. A quantity possesses both magnitude and direction. Is it necessarily a vector? Explain.

b. Explain physical meaning of the divergence of a vector field.

c. State any two properties of vector product.

d. Explain Scalar Triple product.

e. What is Cartesian co-ordinates system?

Fill in the Blanks:

f. .....theorem is used to transform a volume integral into surface integral.

g. .....field is represented as gradient of electrostatic potential.

h. A vector field whose curl vanishes is called .....

Section B

2. Attempt all questions: (3×2=6)

a. The position vector of a point is given by

$$\vec{r}=(\frac{4}{3}t^3-2t)\,\hat{\imath}+t^2\hat{\jmath}$$

find the velocity and acceleration of the point at t=3 sec. The distance is measured in metres.

b. State Stoke's and Gauss divergence theorem.

c. Find the value of $\vec{\nabla}r^n$ where $\vec{r}=x\hat{\imath}+y\hat{\jmath}+z\hat{k}$.

Section C

3. Attempt all questions: (2×3=6)

a. A particle moves along a curve $x = 2\sin 3t$, $y = 2\cos 3t$, $z = 8t$. At any time t>0 find it's velocity and acceleration and their magnitudes.

b. Find the work done in moving a particle once around a circle C in xy plane, if the circle has centre at the origin and radius 3 and if the force field is given by

$$F=(2x - y + z)\hat{\imath}+(x + y - z^2)\hat{\jmath}+(3x - 2y + 4z)\hat{k}$$

DEPARTMENT OF MECHANICAL ENGINEERING
UNIVERSITY INSTITUTE OF ENGINEERINGAND TECHNOLOGY, CSJM UNIVERSITY, KANPUR
Workshop Concept (TCA S102)

Semester: 2023-24 (Odd Semester) **Year: 1st Year (2K23)**

Mid Semester Examination (CSE)

Time: 1.5 h **Maximum marks: 30**

All questions are compulsory

Section A

1. Strain is the ratio of..... 1
2. ..... is a slow permanent deformation of metal due to prolong loading 1
3. Acetylene cylinder is filled with spongy material saturated with chemical solvent known as_____. 1
4. In _____ polarity electrode forms the negative terminal and work piece forms the positive terminal. 1
5. _____ is used to prevent the oxidation of surface. 1
6. The ability of material to resists abrasion, wear indentation is known as 1
7. .....fracture takes place by rapid propagation of a crack with no plastic deformation 1
8. ..... is the capacity of a material to absorb energy in elastic range. 1
9. In _____ arc welding polarity is not fixed at terminal. 1

Section B

1. *What are the equipment's used in oxyacetylene gas welding? Explain in detail with neat sketch.* 3
2. *Explain different types of oxyacetylene flame.* 3
3. *Explain carbon arc welding.* 3

Section C

1. Explain the different types of plant layout with their advantages and disadvantages. 6
2. Explain stress-strain curve for ductile material with neat sketch and explain six mechanical properties. 6

DEPARTMENT OF MATHEMATICS
UIET, C.S.J.M. UNIVERSITY, KANPUR.
MTHS-101 Branch CSE

Semester: I[st] (Odd Sem) Year: 2023-24

FIRST MID SEMESTER EXAMINATION

Time: 1.5 h Maximum marks: 30

All questions are compulsory

Section A

1. Attempt all questions [9 x 1 =9]

(a)A convergent sequence has only ..... limit

(b) A sequence $\langle \frac{1}{n} \rangle$ is bounded or not .....

(c)A series $\sum_{n=1}^{\infty}(1+\frac{1}{n})$ is .....

(d)An series $\sum a_n$ is said to be absolutely convergent if .....

(e) A sequence $\langle x_n \rangle$ is said to be bounded below if there exist a real number k such that .....

(f) The necessary condition for convergent series is.....

(g)Is the sequence $\langle \frac{2^n}{n!} \rangle$ Is monotonic increasing or decreasing

(h)The nature of the series $1+\frac{1}{2}+\frac{1}{4}+\frac{1}{8}$ ..... ∞ is .....

(i) The geometric series is ..... If $r \leq -1$

Section B

Attempt all questions [3 x 3 = 9]

2. Examine for convergence

$$\frac{1}{\sqrt{2}}+\frac{2}{\sqrt{5}}+\frac{4}{\sqrt{17}}+\ldots\ldots\ldots\ldots\ldots\ldots$$

3. Test for convergence the series whose n[th] term is $\frac{2^n}{n^3}$.

4. Examine the continuity of the function

$$f(x,y)=\begin{cases}\dfrac{x}{\sqrt{x^2+y^2}} & x\neq 0, y\neq 0\\ 2 & x=0, y=0\end{cases}$$

Section C

Attempt all questions [2 x 6 = 12]

5 Test for Convergence for the series.

$$\frac{x}{1\cdot 2}+\frac{x^2}{3\cdot 4}+\frac{x^3}{5\cdot 6}+\frac{x^4}{7\cdot 8}+\ldots\ldots\ldots\ldots\ldots\ldots$$

6. Test for convergence the series whose n[th] term is $\frac{(3n^2+1)^{1/3}}{(4n^3+2n+7)^{1/4}}$.

$\lim_{n\to}$

Department of Humanities

U. I. E. T., C. J. M. University

Professional Communication (HSS-S 101), Branch: CSE '23

Semester: 2023 (1st Odd Sem.) **Year: 1st Year (2K23)**

Mid Semester Examination

Time: 1.5h **Total Marks: 30**

Section A

Q1. Attempt **all** questions: (1x9=9)

a. **Identify the barrier**: Student: Due to network issues, I couldn't submit the application on time.

b. **Identify the barrier**: Rita: I am feeling nervous to give the presentation.
Sita: You are always giving excuses.

c. **Identify the barrier**: My father was born in Hyderabad only.

d. **Identify the barrier**: Ram:(With a sad look, ☹) Congratulations! You secured the highest marks.

e. **Identify the barrier:** Women don't know to drive.

f. **Choose the appropriate word**: The _____ of money you make in a year depends on the number of _____ you close. (amount, deals)

g. **Choose the appropriate word**: It's difficult to _____ things that one doesn't _____. (expect, anticipate)

h. **Choose the appropriate word**: _____ her duty to look after the employees' well-being. (it's/its)

i. **Fill in the correct word form:** The supervisor punished the candidates for their _____. (conduct)

Section B

2. Attempt **any three** of the following: (3x3=9)

i. How is the interpersonal level of communication different from intra personal level of communication?

ii. Discuss the role of the sender in the process of communication.

iii. What are semantic barriers? Give two examples.

iv. Write a short note on the grapevine.

Section C

3. Attempt **any two** of the following: (2x6=12)

1. Explain the features of the downward flow of communication in an organization.

2. How is general-purpose communication different from technical communication? Explain by constructing sentences for the same.

3. Explain the following terms with reference to barriers in communication:

a. Information overload

b. Emotional outburst

For Students of Branch CSE Only

ISC-S 101

MID SEMESTER EXAMINATION -1

University Institute of Engineering & Technology
C. S. J. M. University Kanpur
***for* Computer Science and Engineering**

Max Marks: 30 **Max Time: 90 Mins.**

Note: Answer all questions of a section at same place.

Section A
(1 Marks Each)

1. If a text file is 3.5 MB in size, how many kilobytes (KB) is it equivalent to?

2. For a 5-input logic circuit, how many rows would its truth table have?

3. What is use of *kernel*?

4. What is the difference between data and information?

5. Which of following is/are definitely not a binary number:

a. *10101000A000101* ***c.*** *101010100001001*
b. *101010F00001001* ***d.*** *101010170000101*

6. Name any two activities for which space scientists can make use of computers.

7. What does RAM stand for and what is its role in a computer?

8. What is base of *hexadecimal number system*?

9. What is a *compiler*?

For Students of Branch CSE Only

Section B
(3 Marks Each)

1. Explain the *Carry Ripple Adder* in details.

2. Write a short note on different *hardware components* used in a Computer. Also explain their usage in the working of a computer.

3. Convert (whenever possible) the following numbers into equivalent binary numbers

(a) $(569)_8$ **(b)** $(201)_{10}$ **(c)** $(60F)_{16}$

Section C
(6 Marks Each)

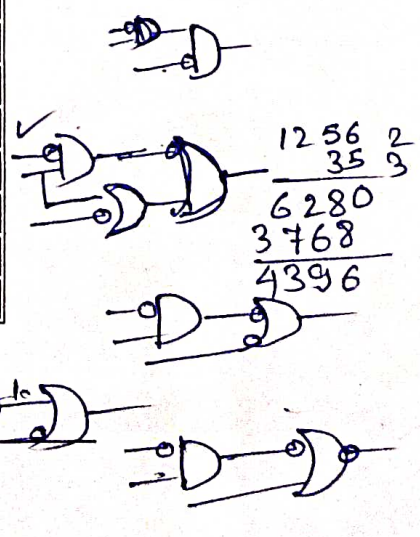
1.

- **a.** Explain the *Filp-Flop* and for what purpose they are used?
- **b.** Write down the name of 6 *operating systems.*

Data Process Networking.

2. Given the truth table below for a 3-input logic gate, draw the corresponding logic circuit:

Input A	Input B	Input C	Output
0	0	0	**1**
0	0	1	**0**
0	1	0	**1**
0	1	1	**0**
1	0	0	**0**
1	0	1	**1**
1	1	0	**0**
1	1	1	**1**



12 56 2
35 3
6280
3768
4396

ALL THE BEST