Roll No.:_____ Branch-(CSE)

B. Tech. Examination- Oct, 2023 (Mid Semester ii)
PHY-S101 (Physics)
University Institute of Engineering and technology
C.S.J.M University, Kanpur

Time: 1.5 Hours] **[Max. Marks: 20]**

(Write your Roll No. at the top immediately on the receipt of the question paper.)

Note: ***Attempt all questions. All questions carry equal marks.***

(Section –A, each 1 mark)

1. Write the equation of steady state wave function and time dependent Schrodinger wave equation.
2. Define time dilation.
3. What will be the radius of gyration for a solid sphere about a diameter whose radius is 0.5m?
4. Write any two properties of matter wave.
5. Write the quantum mechanical operator of momentum and z-component P_z.
6. What is the rest mass defining it?
7. Define parallel axis theorem.
8. Write the formula of centre of mass of a semi circular lamina or plate.

(Section – B, each 2 Marks)

9. Explain and find centre of mass of a solid hemisphere.
10. Explain and find moment of inertia of a hollow sphere or a thick shell. (a) About diameter and (b) About a tangent.
11. Calculate the energy equivalent to amu in Mev. Given Avogadro no = 6.02×10^{23}/gm mole.

(Section-C, each 3 marks)

12. Derive and explain moment of inertia of a uniform solid right circular cone about its axis.
13. A uniform thin bar of mass 6 kg and length 2.4m is bent to make an equilateral hexagon. Calculate its moment of inertia about an axis passing through the centre of mass and perpendicular to the plane of hexagon.

The End

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)**

(II) Mid Semester Examination (CSE)

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

All questions are compulsory

Section A

1. .....stroke is cutting stroke in shaper. 1
2. Milling is the machining operation in which cutting take place by ..... point rotating tool. 1
3. In compound rest method, compound rest is swilled by the angle $\tan\alpha$ =....., in terms of d_1 ,d_2 and L. 1
4. ..... is used to prevent the oxidation of surface in welding. 1
5. Solder is an alloy of 1
6. .....defects occur due to the entrapment of gas bubbles in welding. 1
7. Which type of surface is produced in facing operation? 1
   a) cylindrical b) taper c) flat d) none of the mentioned
8. Which of the following operation is performed to provide recess for bolt heads or nuts? 1
   a) counter boring b) spot facing c) tapping d) none of the above
9. Which of the following is used for machining larger jobs? 1
   a) shaper b) planer c) can't say anything d) none of the mentioned

Section B

1. Differentiate between up milling and down milling. 3
2. Differentiate shaper and planer. 3
3. Explain various parts of drill machine with neat sketch. 3

Section C

1. Explain the various parts of lathe machine and also explain the various operation performed on lathe. 6
2. Explain welding defects and also explain different operations performed on drilling machine. 6

ISC-S 101

MID SEMESTER EXAMINATION -2

Department of Computer Science & Engineering
University Institute of Engineering & Technology
C. S. J. M. University Kanpur

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

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

Section A
(1 Marks Each)

1. What is the root directory in Unix?
2. What is the purpose of the "chmod" command?
3. How can you create a new directory in Unix?
4. What is the Unix shell?
5. How do you check the current working directory in Unix?
6. Define multitasking in the context of operating systems.
7. What is the kernel of an operating system?
8. What is role of an *interpreter* in computer programming?
9. What is difference between *Unix* and *Linux* operating system.

Section B
(3 Marks Each)

1. Discuss the *Unix file permissions* system in detail, including how to set and modify permissions, and the concept of ownership.

For Students of Computer Science and Engineering (CSE)

2. Explain the concept of *piping* in *Unix* and *file redirection*. Provide an example for each.
3. Explain the Unix file system structure in detail.

Section C
(6 Marks Each)

1. Explain the Unix *Vi text editor* comprehensively, its modes, key commands, and practical use cases in text editing and programming.
2. Answer the following:
   a. What Unix command is commonly used to view the contents of a file one page at a time, allowing you to scroll through it?
   b. If you have a file named "*document*.txt" in your current directory and you want to make a copy of it named "*backup*.txt," what Unix command would you use?
   c. You need to find and count all the files with the "*.txt*" extension in the "*documents*" directory and its subdirectories. What Unix command would you use to achieve this?

ALL THE BEST

Department of Humanities

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

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

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

Second Mid Semester Examination

Time: 1.5h Total Marks: 30

Section A

Q1. Fill in the appropriate word or rearrange the jumbled sentences: (1x9=9)

a. _____ Sunita has become the CEO; the company has been achieving its sales target_____ the last five years. (for, since)
b. The villain had _____ intentions towards the hero. (malice)
c. The Sales Executive offers a _____ discount. (promote)
d. An old man _____ the house to steal some food yesterday. (break into, break down)
e. Why is it important to _____ words in a dictionary? (look up, look into)
f. Why is it important to _____ words in a dictionary? (look up, look into)
g. Why/Shabnam Khan/ her post?/ did/ from/ resign
h. the/ Republic Day, /addresses/ President / the/nation/ On the eve of
i. feelings /should/ their /Individuals / their/ with/ family members/ share
j. As/went/ she/ to /eat out /with/ she/ her friends/ was hungry,

Section B

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

i. Why is the " you" approach essential for writing positive messages?
ii. In business letters, what does concreteness imply? Support with an example.
iii. In business letters, what does cordiality imply? Support with an example.
iv. Why and how should coherence be observed in technical writing?

Section C

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

1. You have completed an internship program at IIT Mumbai. But you have not received the certificate yet. Write a letter to the Head of Department for the same. Invent the necessary details.

2. Assume you are the Regional Sales Head of Dell, UP, India. Write a letter to an academic institution offering to set up an advanced computer lab.

3. Why is the AIDA strategy important for writing effective Sales Letters?

DEPARTMENT OF IT
University Institute of Engineering and Technology
C.S.J.M UNIVERSITY KANPUR
Mathematics-I MTHS-101 [CSE]

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

2nd MID SEMESTER EXAMINATION

Time: 1.5 hr Maximum **Marks: 30**

ALL QUESTIONS ARE COMPULSORY

SECTION –A

Attempt all questions [1 x 9 = 9]

QUESTION – 1

(a) The condition for $f(x,y)$ to be maximum or minimum is .....

(b) The minimum value of $x^2 + y^2 + 6x + 14$ *is* ... ...

(c) If u & v are functions of x & y *then* $\frac{\partial(u,v)}{\partial(x,y)}$ is.....

(d) If $x = r\cos\theta, y = r\sin\theta$ *then* $\frac{\partial(r,\theta)}{\partial(x,y)}$ =.....

(e) The equation of the Tangent plane to the surface $x^2 + 2y^2 + 3z^2 = 12$ $at(1,2,-1)$.

(f)) The equation of the Normal line to the surface $2x^2 + y^2 + 2z = 3$ $at(2,1,-3)$.

(g) If $x = u + v, y = u - v$ *then* $\frac{\partial u}{\partial x}$ ____

(h) $f(x,y)$ is said to be homogeneous function in which the power of each term is____

(I) If u is a homogeneous function of x, y, z of degree then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} + z\frac{\partial u}{\partial z}$=.....

SECTION –B

Attempt all questions [3x 3= 9]

2- If $f(x,y) = \frac{1}{x^2} + \frac{1}{xy} + \frac{logx - logy}{x^2+y^2}$ then find the value of then $x\frac{\partial f}{\partial x} + y\frac{\partial f}{\partial y} + 2f$

3- If $u = x + 3y^2 - z^3, v = 4x^2yz, w = 2z^2 - xy$, *evaluate* $\frac{\partial(u,v,w)}{\partial(x,y,z)}$ at(1, -1 ,0)

4- For what value of constant k does the function $f(x,y) = x^2 + y^2 + kxy$ will have a saddle point at (0,0)

SECTION –C

Attempt all questions [2 x 6= 12]

5-Use the method of Lagrange's multipliers to find the value of the largest rectangular parallelepiped that can be inscribed in the ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$

6- Obtain Taylor's expansion of $\tan^{-1}\frac{y}{x}$ about (1,1) upto and including the second degree terms