Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

**Class: FY** **Year: 2023-24**
**Div.: D** **Sem: I**

**Subject: BCE**

**Date: 21/10/2023** **Time: 12.00 noon -1.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any two. (8x2)** | 16 | |
| 1 | Civil engineering is very much relevant to other branches of engineering. Explain this statement. | | 1 |
| 2 | Write a note on "Role of Civil Engineer". | | 1 |
| 3 | Explain any two branches of civil Engineering. | | 1 |
| 4 | Enlist various principles of building planning. Explain grouping, circulation &prospect | | 1 |
| **Que 02** | **Attempt any two. (7x2)** | 14 | 1 |
| 1 | Differentiate between load bearing & framed structure. | | 1 |
| 2 | What are the parts of building structure? Explain in detail. | | 1 |
| 3 | Write a note on types of foundations. | | 1 |
| 4 | Draw a typical cross section of wall showing various components. | | 1 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 02

**Class: FY** **Year: 2023-24**

**Div.:D** **Sem: I**

**Subject: BCE**

**Day & Date: Tuesday, 12/12/2023** **Time: 10 am to 11 am** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

<table>
<tr><th>Que.No</th><th>Questions</th><th>Marks</th><th>CO</th></tr>
<tr><td></td><td>Attempt any two</td><td rowspan="4">16</td><td rowspan="4">4</td></tr>
<tr><td>1</td><td>A series of levels obtained in leveling work is given below: (BM of R.L 415.375) 1.235,2.140,0.785,2.135,2.845,1.375,0.625,1.978,2.312<br>The leveling instrument was shifted after third, sixth and eighth readings, enter above readings correctly in it,<br>Calculate R.L of each point and apply necessary checks. Use HI method only. Write all calculations.</td></tr>
<tr><td>2</td><td>Explain various characteristics of contour? Explain Characteristics & Uses also.</td></tr>
<tr><td>3</td><td>The following consecutive readings were taken with a level and a 4 m leveling staff on a continuous sloping ground interval.<br>0.585,1.855,2.955,1.265,2.925,0.350,2.350.2.855,1.655,2.685,2.435<br>The R.L of A was 100.000 m. The leveling instrument was shifted after third, sixth and ninth readings, Make entries in a Table and apply usual checks. Use rise and fall method only. Write all calculations.</td></tr>
<tr><td></td><td>Attempt any two</td><td rowspan="4">14</td><td rowspan="4">4</td></tr>
<tr><td>1</td><td>How will you find out area of a given figure by using planimeter?</td></tr>
<tr><td>2</td><td>Following are the bearings in closed compass traverse.
<table>
<tr><th>Line</th><th>AB</th><th>BC</th><th>CD</th><th>DE</th><th>EA</th></tr>
<tr><td>F.B</td><td>$30^0\ 0^0$</td><td>$50^0\ 0^0$</td><td>$157^0\ 30^0$</td><td>$243^0\ 30^0$</td><td>$311^0\ 0^0$</td></tr>
<tr><td>B.B</td><td>$210^0\ 0^0$</td><td>$231^0\ 30^0$</td><td>$335^0\ 30^0$</td><td>$65^0\ 0^0$</td><td>$130^0\ 0^0$</td></tr>
</table>
Find - i) Included angles.<br>ii) Corrected bearings.<br>iii) Corrections.</td></tr>
<tr><td>3</td><td>A 20 m chain which was tested before the measurements and found correct. After measuring the distance 1400 m, it was tested again and found to be 12 cm too long. At the end after measuring total distance of 3000 m it is tested again and found to be 10 cm too long.Find the true distance measured.</td></tr>
</table>

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

**First Year Engineering & Technology Department.**

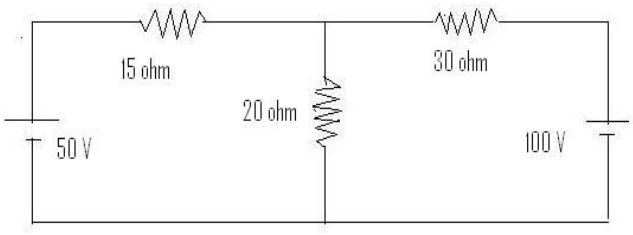
**Continuous Internal Evaluation (CIE) No: 01 A.Y.2023-24(Sem-I)**

**Subject:- Basic Electrical Engg.** **Day&Date :- 23/10/2023**

**Class: F.Y.B.Tech (Div-C&D)** **Time:- 10 to 11**

**Instructions:** 1) Use of non-programmable calculator is allowed. **Max Marks**: **30**

2) Figures to the right indicate full marks

| Que. No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any 1** | 06 | |
| A | Define And State It's Units i) EMF ii)Resistance iii)Current | | 01 |
| B | Define And State It's Units i) Magnetic Flux ii)Reluctance iii) MMF | | |
| **Que 02** | **Attempt any 3 (8 Marks each)** | 24 | |
| A | State & explain Kirchhoff's laws | | 03 |
| B | Two batteries A & B are connected in parallel across a load resistance of 04 ohm. The emf & internal resistance of battery A & B are 20 volts, 02 ohm and 24 volts, 04 ohm respectively, using Mesh analysis, Find current in each branch. | | 02 |
| C | Find the current through each resistance for a given network using Node analysis method.   | | 02 |
| D | Compare Magnetic Circuit with Electric Circuit. | | 01 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

**First Year Engineering & Technology Department.**

**Continuous Internal Evaluation (CIE) No: 02 A.Y.2023-24(Sem-I)**

**Subject: - Basic Electrical Engg.** **Day & Date :-Tuesday,12/12/2023**

**Class: F.Y.B.Tech (Div-C&D)** **Time:- 03 pm to 04 pm**

**Instructions:** 1) Use of non-programmable calculator is allowed. **Max Marks**: **30**

2) Figures to the right indicate full marks

*3) Figures to the right indicate full marks.*

| Q.No.1 | | Solve any Five questions. | | Co-Po |
|---|---|---|---|---|
| | A) | Derive the equation of power in R-C circuit | 06 | 2,3 |
| | B) | A series R-L-C circuit connected across 200 volts, 50Hz ac supply draws a current of 5 amp at unity power factor. If the capacitance is of 507 microfarad,find<br>i) Resistance<br>ii) Capacitive & Inductive Reactance<br>iii) Power | 06 | 2,3 |
| | C) | Why earthing is necessary? Explain any one type of earthing. | 06 | 1 |
| | D) | Explain CFL with neat sketch. | 06 | 1 |
| | E) | What are the advantages of 3 Phase over 1 phase system | 06 | 1 |
| | F) | Prove that line current = $\sqrt{3}$ phase current in delta connection circuit | 06 | 3 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur

## First Year Engineering & Technology Department

## Continuous Internal Evaluation (CIE) No: 01

**Class: FYBTech** **Year: 2023-24**
**Div.: A & B** **Sem: I**
**Subject: Engg. Chemistry**

**Day & Date: Saturday, 21/10/2023** **Time : 10.00 am-11.00 am** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

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| Q. No | Questions | Marks | CO |
|---|---|---|---|
| **Q. 01** | **Attempt any two.** | 15 | |
| 1 | With a neat labeled diagram, give construction and working of Boy's calorimeter. | | 3 |
| 2 | Discuss the characteristics of a good fuel. | | 1 |
| 3 | Write a note on Corrections of Bomb calorimeter. | | 3 |
| **Q. 02** | **Attempt any two.** | 15 | |
| 1 | Explain the terms – Calorific value, Higher calorific value & Lower calorific value. | | 1 |
| 2 | Distinguish between liquid and gaseous fuels. | | 1 |
| 3 | Following results were recorded in Bomb calorimeter experiment. Calculate the gross and net calorific value of the fuel contains 5.6 hydrogen and latent heat of condensation of steam as 587cal/gm.<br>Weight of coal burnt=0.9 gm<br>Mass of water in calorimeter = 2400 gm<br>Water equivalent of calorimeter = 471 gm<br>Observed rise in temperature = $2.58^0$C<br>Cooling correction = $0.037^0$C<br>Fuse wire correction= 12.5 Cal<br>Acid Correction = 60Cal | | 3 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

**Class: FY B. Tech** **Year: 2023-24**
**Div.: A & B** **Semester: I**
**Subject:** Basic Mechanical Engineering
**Date: Monday, 23/10/2023** **Time: 11.45 P.M. to 12.45 P.M.** **Max Marks: 30**

**Instructions:** ***1) Attempt any two full questions.***
*2) Use both sides of paper to answer the questions.*
*3) Non-programmable calculator is allowed.*
*4) Figures to the right of questions indicate full marks.*
*5) Text to the right of marks indicate CO & learning level respectively.*

| | | | | | |
|---|---|---|---|---|---|
| **Q. 1** | a) | Write statements of second law of thermodynamics | 4 | 2 | 1 |
| | b) | Explain Heat and Work. | 5 | 1,2 | 2 |
| | c) | A chilled water of 15 kg/s enters the system for air conditioning a tall building with a velocity of 60 m/s at a height of 40 m from the ground. The water leaves the system with a velocity of 20 m/s at a height of 70 m. The enthalpies of water entering in and leaving out are 30 KJ/kg and 50 KJ/kg respectively. The rate of work done by a pump in the line is 40 KW. Find out the rate at which heat is removed from the building. | 6 | 1,2, 3 | 4 |
| **Q. 2** | a) | Represent Otto cycle on P-V diagram and obtain expression of air standard efficiency | 5 | 1 | 3 |
| | b | Compare Petrol engine and Diesel engine. | 5 | 1 | 3 |
| | c) | Describe the working of four stroke CI engine with neat sketch. | 5 | 1 | 2 |
| **Q. 3** | a) | Explain Otto cycle on P-V and T-S diagrams and write the expression for its thermal efficiency. | 4 | 1 | 2 |
| | b) | Differentiate between two stroke and four stroke I. C. engine. | 5 | 1,2 | 3 |
| | c) | The working fluid in a steady flow process flows at a rate of 220 kg/min. The fluid rejects 100 kJ/Sec. passing through the system. The conditions of the fluid at inlet & at outlet are as given below.<br>Inlet velocity= 320 m/sec. Inlet pressure= 6 x $10^5$ N/$m^2$ Inlet internal energy= 2000 kJ/kg Inlet specific volume=0.36 $m^3$/kg<br>Outlet velocity= 140 m/sec. Outlet pressure= 1.2 x $10^5$ N/$m^2$ Outlet internal energy=1400 kJ/kg Outlet specific volume=1.3 $m^3$/kg<br>Determine the power capacity of a system. | 6 | 1,2, 3 | 4 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 02

**Class: FY** **Year: 2023-24**
**Div.: C&D** **Sem: I**
**Subject: Engineering Mathematics I**

**Day & Date: Monday, 11/12/2023** **Time: 3.00 pm to 4.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any two** | | |
| 1 | Verify Cayley- Hamilton Theorem for the matrix $\begin{bmatrix} 1 & 3 & 7 \\ 4 & 2 & 3 \\ 1 & 2 & 1 \end{bmatrix}$ | 6 | CO2,4 |
| 2 | Apply Gauss elimination method ,to solve x+4y -z= -5, x+y - 6z= -12, 3x- y- z=4 | 6 | CO2,4 |
| 3 | Verify Cayley- Hamilton Theorem for the matrix $\begin{bmatrix} 1 & 2 & 3 \\ 2 & -1 & 4 \\ 3 & 1 & -1 \end{bmatrix}$ | 6 | CO2,4 |
| **Que 02** | **Attempt any three** | | |
| 1 | Solve by using Gauss Jordan method 10x+y+z=12, 2x+10y+z=13, x+y+5z=7 | 6 | CO2,4 |
| 2 | Using Jacobi's method ,solve 15x+2y+z=18, 2x+20y-3z=19, 3x-6y+25z=22 | 6 | CO2,4 |
| 3 | Solve by using Gauss Seidel method 20x+y-2z=17, 3x+20y-z= -18, 2x-3y+20z=25 | 6 | CO2,4 |
| 4 | Solve by using Gauss Seidel method 10x+y+z=12, 2x+10y+z=13, 2x+2y+10z=14 | 6 | CO2,4 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur

## First Year Engineering & Technology Department

## Continuous Internal Evaluation (CIE) No: 01

**Class:** FY (AIDS) **Year:** 2023-24
**Div.:** C **Sem:** I
**Subject:** Basic Civil Engineering
**Date:** 21/10/2023 **Time:** 12.00 noon – 1.00 pm **Max Marks**: 30

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

---

| Que No | Questions | Marks | CO |
|---|---|---|---|
| **Q 1** | **Attempt any two (6X2)** | 12 | |
| 1 | Enlist various Building Planning Principles and explain anyone in detail. | | 1 |
| 2 | Enlist sub branches of Civil Engineering and explain scope of each. | | 1 |
| 3 | What do you mean by bearing capacity of soil? Explain in brief. | | 2 |
| **Q 2** | **Attempt any two (9X2)** | 18 | |
| 1 | Enlist the types of soil and explain in brief | | 2 |
| 2 | What are the types of foundation? Explain each in detail | | 2 |
| 3 | What do you mean by setback distances? Explain in detail | | 1 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur

## First Year Engineering & Technology Department

## Continuous Internal Evaluation (CIE) No: 02

**Class:** FY (AIDS) **Year:** 2023-24
**Div.:** C **Sem:** I
**Subject: Basic Civil Engineering**
**Day & Date:** Tuesday, 12 /12 /2023 **Time:** 10 am to 11 am **Max Marks**: 30

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

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| Que No | Questions | Marks | CO |
|---|---|---|---|
| **Q 1** | **Attempt any two (6X2)** | 12 | |
| 1 | Differentiate between load bearing and framed structure | | 3 |
| 2 | Write a note on- concrete ingredients and grades | | 3 |
| 3 | How chaining, ranging and offsetting is carried out on field? | | 4 |
| **Q 2** | **Attempt any two (9X2)** | 18 | |
| 1 | Enlist various levelling operations and explain each in short. | | 5 |
| 2 | Define contour and explain characteristics of contour | | 5 |
| 3 | Write a note on-System of Bearings. | | 4 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

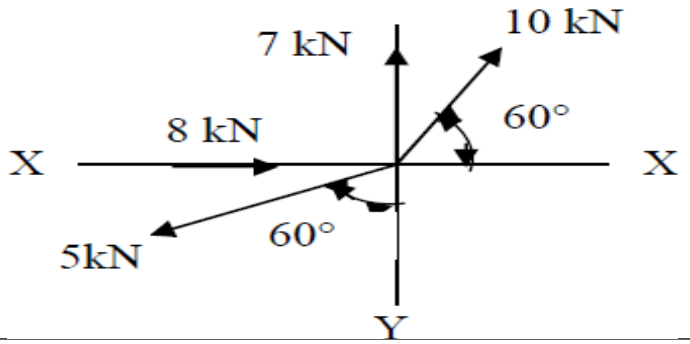
## First Year Engineering & Technology Department.

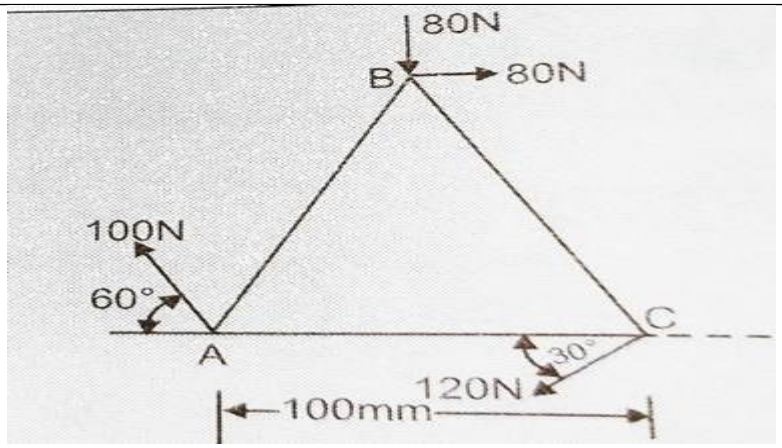
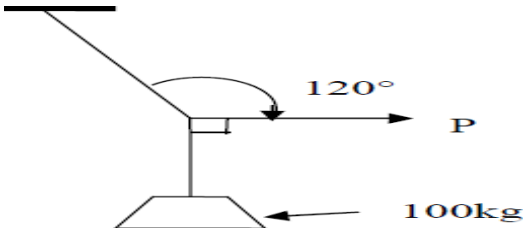
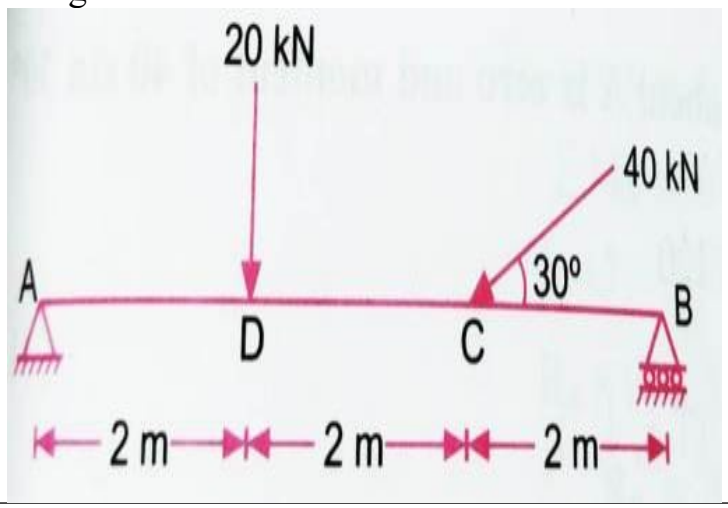
## Continuous Internal Evaluation (CIE) No: 01

**Class: FY** **Year: 2023-24**
**Div.: A & B** **Sem: I**
**Subject: Applied Mechanics**

**Date: 21/102023** **Time: 3.00 pm to 4.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any three. (4 x 3)** | 12 | |
| 1 | Define force and explain characteristics of force. | | CO1 |
| 2 | Define<br>a. Resolution of force<br>b. Composition of force | | CO1 |
| 3 | State and explain parallelogram Law of Forces. | | CO1 |
| 4 | State Lami's Theorem.Write expression of Lami's theorem with sketch. | | CO2 |
| **Que 02** | **Attempt any three. (6 x 3)** | 18 | |
| 1 | Find resultant of a force system shown in Figure   | | CO1 |
| 2 | Find the resultant of the force system as shown in figure. Acting on a lamina of equilateral triangular shape | | CO1 |

| | | | |
|---|---|---|---|
| |  | | |
| 3 | Find the magnitude of the force P, required to keep the 100 kg mass in the position by strings as shown in the Figure<br>  | | CO2 |
| 4 | Calculate the reactions of beam at the support as shown in figure.<br>  | | CO2 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

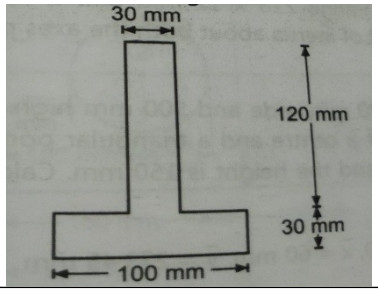
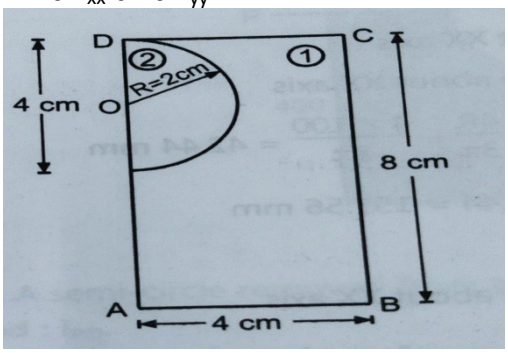
## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 02

**Class: FY** **Year: 2023-24**
**Div.: A & B** **Sem: I**
**Subject: Applied Mechanics**

**Day & Date : Tuesday, 13 /12/2023** **Time : 10 am to 11 am** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any three** | 12 | |
| 1 | State perpendicular axis theorem with neat figure & equation | | CO3 |
| 2 | State & explain Impulse-momentum principle? | | CO4 |
| 3 | Explain Perfectly Elastic impact and perfectly inelastic impact. | | CO6 |
| 4 | Define centripetal and centrifugal force. | | CO5 |
| **Que 02** | **Attempt any three** | 18 | |
| 1 | Find the M.I. of an inverted Tee section having the flange 100 mm x 30 mm and web 120 mm x 30 mm as shown in figure.   | | CO3 |
| 2 | A semicircular portion of diameter 4 cm is cut from a plate 4 cm x 8 cm as shown in figure. O is the centre of semi-circle. Find $I_{xx}$ and $I_{yy}$   | | CO3 |
| | A vehicle of mass 600 kg and moving with a velocity of 12 | | |

| | | | |
|---|---|---|---|
| 3 | m/s strike another vehicle of mass 400 kg moving at 9 m/s in the same direction .Both vehicles get couple together due to impact. Find the common velocity with which the two vehicles will move. | | CO6 |
| 4 | A man weighing 750 N stands on the floor of a lift.<br>Determine the pull exerted on a lift, when<br>a. The lift moves upward acceleration of 2.5 $m/s^2$,<br>b. The lift moves downward acceleration of 2.5 $m/s^2$. | | CO4 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur

## First Year Engineering & Technology Department

## Continuous Internal Evaluation(CIE)No:02

**Class: FYBTech** **Year: 2023-24**
**Div.: A & B** **Sem: I**
**Subject: Engg. Chemistry**

**Day & Date: Monday, 11/12/2023** **Time : 10 am to 11 am** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Q. No | Questions | Marks | CO |
|---|---|---|---|
| **Q. 01** | **Attempt any two** | 15 | |
| 1 | Explain the construction and working of GLC with neat labeled diagram. | | 3 |
| 2 | Define electrochemical corrosion. Explain hydrogen evolution mechanism with example. | | 1 |
| 3 | State Beer-Lambert's law and derive expression for it. | | 3 |
| **Q. 02** | **Attempt any two** | 15 | |
| 1 | Give schematic representation of a single beam spectrophotometer. How will you determine the concentration of unknown solution? | | 3 |
| 2 | What is hot dipping process? Write a note on galvanization. | | 2 |
| 3 | Discuss the factors influencing the rate of corrosion | | 1 |

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# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 02

**Subject: Engineering Physics**

**Class: F.Y.B.Tech** **Year: 2023-2024**
**Div.: C / D** **Sem: I**

**Day & Date: Monday, 11/12/2023** **Time: 10 am to 11 am** **Max Marks: 30**

**Instructions:** 1. Non-programmable calculator is allowed.
2. Figures to the right indicate full marks, CO &PO.

| **Q.No.1** | **Solve any FIVE questions from the following.** | **Marks** | **CO** | **PO** |
|---|---|---|---|---|
| A) | Explain the various factors affecting architectural acoustics. | 6 | 1,2 | 1 |
| B) | Define atomic radius and find it's values for SC, BCC & FCC lattice. | 6 | 1,2 | 1 |
| C) | Define packing factor and find it's values for SC, BCC & FCC lattice. | 6 | 1,2 | 1 |
| D) | What are Miller indices? Explain the rules for finding Miller indices of a plane. Write some important characteristics of Miller indices. | 6 | 1,2 | 1 |
| E) | Derive Bragg's law. | 6 | 1,2 | 1 |
| F) | i) X-rays of wavelength $0.71A^0$ are reflected from the (110) plane of rock salt crystal (a = 2.82 $A^0$). Calculate the glancing angle corresponding to second order reflection. | 3 | 3 | 2 |
| | ii)A crystal with FCC lattice has density $6250kg/m^3$ and molecular weight 60.2. Calculate the lattice constant.<br>**OR**<br>ii) Draw (001), (101) and (211) plane in a cubic crystal system. | 3 | 3 | 2 |

# Democracy, Elections and Good Governance

## Examination, December 2023

### First Year Engineering & Technology Department

**Day & Date: Wednesday, 13/12/2023 SEM-I Time 3.00 pm -4.00 pm. Total Marks: 50**

**Name of Student: _____Roll No: _____ SU Exam Seat No: _____**

**Instructions: 1. All questions are compulsory 2. All questions carry equal marks. 3. Fill the box the correct answer.**

**1.** The word 'Democracy' is derived from the Greek word 'Kratos' which means-
a) Power or Rule b) Republic c) Freedom d) Dictatorship

**2.** 'ADULT' with respect to 'Right to Vote' means-
a) Persons who has completed 18 yrs. b) Persons who has completed 17 yrs.
b) Persons who has completed 16 yrs. d) None of the above

**3.** Zilla Parishad Chairperson is-
a) The diplomatic head of Zilla Parishad b) The Political head of Zilla Parishad
c) The Logical head of Zilla Parishad d) The Ethical head of Zilla Parishad

**4.** The 'House of the people' is also known as –
a) Rajya Sabha b) Vidhan Sabha c) Vidhan Parishad d) Lok Sabha

**5.** The term EVM in relation to election process means-
a) The Electronic Vending machine b) The Electronic Voter machine
b) c) The Electronic Vetting machine d) The Electronic Voting machine

**6.** At present Lok Sabha consist of _____ members.
a) 435 b) 345 c) 543 d) 235

**7.** Who is the present President of India?
a) Pranab Mukharji b)Shri.Ramnath Kovind c) Rajnath Sing d) Droupadi Murmu

**8.** The Rural areas self-government consist of-
a) Zill Parishad b) Panchayat Samiti c) Village Panchyat d) All of the above.

**9.** Whether provisions of NOTA are applicable in Presidential election?
a) Yes b) Applicable state wise c) No d) Applicable in some cases

**10.** The State Election Commission of Maharashtra was established on-
a) 15th August, 1950 b) 26th January, 1947
c) 08th October, 1950 d) 26th April, 1994

**11.** In Maharashtra how many 'Zilla Parishad' are formed as of date?
a) 20 b) 26 c) 34 d) 33

**12.** Democracy must be based on-
a) Free & fair elections b) One party in a country only
c) No opposition d) All of the above

**13.** The Chief Election Commissioner is appointed by-
a) Prime Minister b) President of India
c) Chief Justice of Supreme Court d) None of the above

**14.** The party in power whether at the Centre or in the state or States concerned shall ensure that it has not used its official position for the purpose of its election campaign.
a) The statement is incomplete. b) The statement is illogical
c) The statement is True d) The statement is inference

**15.** Whether a Minister can combine his official visit with electioneering work?

a) Yes b) No c) May be d) Certainly

**16.** Read the following statement & find out the most correct option.

**Statement A**:

Members of Indian Army, Navy and Air Force and personnel of General Reserve Engineer Force (Board Road Organization), Border Security Force,Indo- Tibetan Boarder Police, Assam Rifles, National Security Guards, Central Reserve Force, Central Industrial Security Force and Sashastra Seema Bal are eligible to be registered service voters.

**Statement B**:

Form 2/2A/3 can be downloaded from the website of Election Commission of India.

a) Statement A is true but Stat. B is false b) Statement B is true but Stat, A is false.

c) Statement A and Statement B are false d) Both Statements A& B are correct

**17.** All people have right to vote.

a) The statement is true b) The statement is illogical

c) The statement is incomplete d) The statement is false

**18.** India is smallest democracy in the world.

a) True b) False c) Incomplete d) Illogical

**19.** Right to Information Act, 2005 has been enacted by the government seeks to promote-

a) Government b) Transparency c) Legitimacy d) Autocracy

**20.** Condition of service & tenure of office of the State Election Commissioner is determined by-

a) President of India b) Governor of the State

c) Chief Minister of the State d) None of the above

**21.** Who is the Chief Election Commissioner of India?

) Mr.Rajiv Kumar b) Mr.NandLal c) Mr. R.L.Rajwade d) Mr. D.N.Choudhari

**22.** 'Wards' in an election process is made for-

a) Parliament b) Lok Sabha c) Vidhan Sabha d) Grampanchyat and Municipal Councils

**23.** The government at the center and in the states is usually elected for a term of-

a) Three years b) Four Years c) Six Years d) Five Years

**24.** India has got democracy as a gift from the neighboring country China.

a) True b) False c) Incomplete d) None of the above

**25.** The Representation of People Act, 1951 is an act related to –

a) Dowry b) Election c) Marriage d) Alienation

Total Marks: 50

Name & Signature of Supervisor: _____

Name & Signature of Examiner: _____

Dr. J.J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

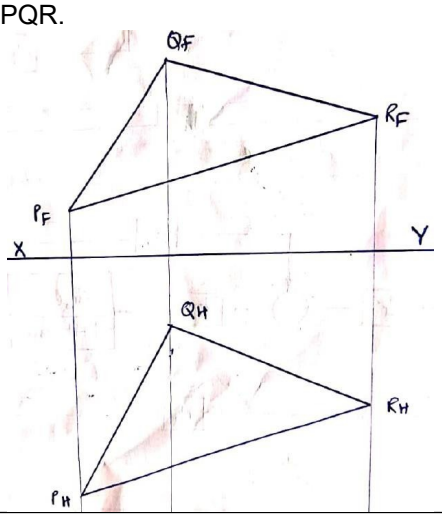
**Class: FY** **Year: 2023-24**

**Div.: C and D** **Sem: I**

**Subject: Engineering Graphics**

**Date: 23-10-2023** **Time: 12.00 noon to 01.15 pm** **Max Marks: 30**

**Instructions:** 1)Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any two.** | 10 | |
| 1 | Construct an ellipse when the distance of a fixed point from a fixed vertical line is 50 mm and its eccentricity is 75%. | | 01 |
| 2 | Trace the path of point P for a circle of diameter 50 mm. The initial position of point P is at the bottom of wheel. Draw the cycloid for one complete revolution of a circle. | | 01 |
| 3 | Draw the involute of a circle of 60 mm. | | 01 |
| **Que 02** | **Attempt any two.** | 10 | |
| 1 | The top view of 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. It's one end A is 10 mm above HP and 15 mm Infront of VP. Draw the projections of AB and determine its inclinations with HP and VP. | | 01,02 |
| 2 | Draw the projections of line AB 70mm long, if its bearing is S44ºE at A. Its grade is 70 % . Assume point A to be 10 mm above HP and 15 mm In front of VP. | | 01,02 |
| 3 | Redraw the given figure, assume suitable distance of point P,Q, R. Draw the true shape of the plane PQR.   | | 01,02 |
| **Que 03** | **Attempt any one** | 10 | |
| 01 | An isosceles triangular plate of 50 mm base and 75 mm altitude appears as an equilateral triangle of 50 mm in TV. Draw the projections of a plate if its 50 mm long edge is on the HP and inclined $45^0$ to the VP. | | 01,02 |
| 02 | A regular hexagonal lamina of side 30mm rests on one of its side on the VP. Draw its projections if the surface of the lamina is inclined at 45º to the VP and a side on which it rest is inclined at 30º to HP. | | 01,02 |

Dr. J.J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

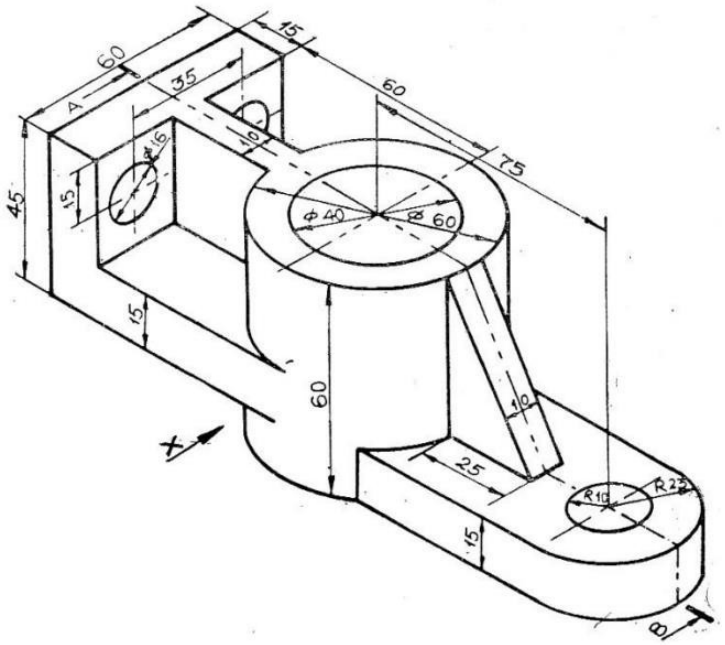
## Continuous Internal Evaluation (CIE) No: 02

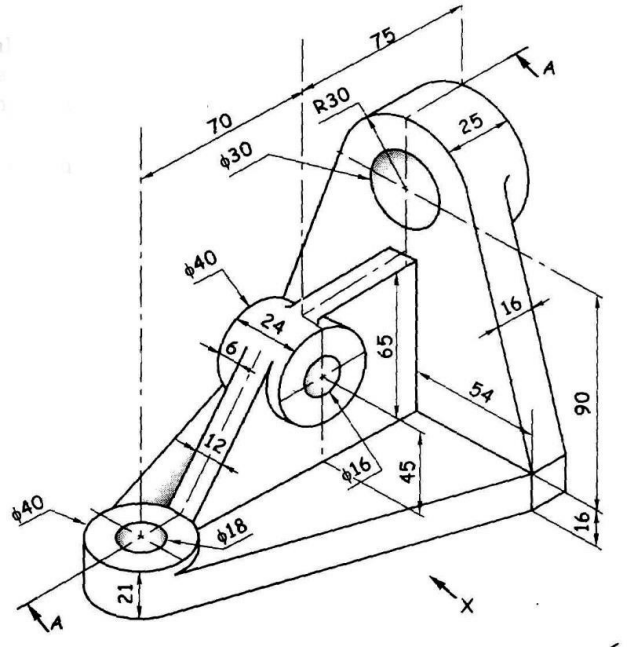
**Class: FY** **Year: 2023-24**
**Div.: C and D** **Sem: I**

**Subject: Engineering Graphics**

**Day & Date: Wednesday, 13 -12-2023** **Time: 10 am to 11.15 am** **Max Marks: 30**

**Instructions:** 1)Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any One** | | |
| a | A Hexagonal prism, side of base 30 mm and axis length 60 mm has one of the side of its base in HP which makes an angle of $30^0$ with VP and axis inclined at an angle $45^0$ with HP. Draw its projections. | 10 | 01,02, 03 |
| b | A right circular cylinder with 50 mm diameter and height 70 mm rest on HP such that the base is inclined at $60^0$ to HP and top view of axis is inclined $45^0$ to VP. Draw the projections. | | 01,02, 03 |
| **Que 02** | Draw development of cone having base diameter equal to 50mm and height 70mm resting on base on HP. | 05 | 01,02, 04 |
| **Que 03** | **Attempt any One** | | |
| a | From the following figure draw,<br>i) Sectional front view along A-B in the direction X<br>ii) Top view<br>Show important dimensions<br>  | 15 | 01,03 |

| | | | |
|---|---|---|---|
| b | From the following figure draw,<br>i) Sectional front view along A-A in the direction X<br>ii) Left hand side view<br>iii) Show important dimensions<br>  <br> | | 01,03 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

**Class: FY** **Year: 2023-24**
**Div.: A and B** **Sem: I**
**Subject: Fundamental of Electronics & Computer Programming (FEC)**

**Date: 23 /10/2023** **Time: 10.00 am to 11.00 am** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

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| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **01** | **Attempt any two. (6*2)** | **12** | |
| 1 | Explain semiconductor V-I characteristic and give its one application. | | CO1 |
| 2 | Explain Working of CE amplifier with circuit diagram. | | CO1 |
| 3 | Explain basic gates and derived gates with truth table. | | CO2 |
| **02** | **Attempt any three. (6*3)** | **18** | |
| 1 | Explain working of Bridge rectifier with circuit diagram and waveforms. | | CO1 |
| 2 | Explain NAND gate as universal gate. | | CO2 |
| 3 | State and explain De'Morgans Laws. | | CO2 |
| 4 | Convert following number system.<br>i) **116** Decimal to Binary<br>ii) **4B27** Hexadecimal to decimal<br>ii) **(1101001.0111)** Binary to Octal | | CO2 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 02

**Class: FY** **Year: 2023-24**
**Div.: A and B** **Sem: I**
**Subject: Fundamental of Electronics & Computer (FEC)**

**Day & Date: Tuesday, 12/12/2023** **Time: 3.00 pm to 4.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

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| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **01** | **Attempt any two. (6*2)** | **12** | |
| 1 | What is multiplexer? Explain 4:1 multiplexer. | | CO2 |
| 2 | Write short note on A) Microwave Oven B) Tachometer. | | CO3 |
| 3 | Explain computer generations in details. | | CO5 |
| **02** | **Attempt any three. (6*3)** | **18** | |
| 1 | Explain full adder with logic diagram. | | CO2 |
| 2 | Explain LVDT transducer with diagram and suitable application. | | CO3 |
| 3 | What is operating System? Explain types of operating systems. | | CO4 |
| 4 | Enlist and elaborate different types of input devices of computer. | | CO4 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

**Class: FY** **Year: 2023-24**
**Div.: C&D** **Sem: I**
**Subject: Engineering Mathematics I**

**Date: 21/10/2023** **Time: 3.00 pm to 4.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any two.** | | |
| 1 | Reduce the following matrix to normal form & find its rank $\begin{bmatrix} -3 & 4 & 6 \\ 5 & -2 & -3 \\ 3 & 1 & -4 \end{bmatrix}$ | 6 | CO1,2 |
| 2 | Test the consistency & if possible solve<br>$2x - y + 3z = 1$<br>$3x + 2y + z = 3$<br>$x - 4y + 5z = -1$ | 6 | CO1,2 |
| 3 | If $\lambda_1, \lambda_2, \lambda_3$ are Eigen values of matrix $\begin{bmatrix} -2 & -9 & 5 \\ -5 & -10 & 7 \\ -9 & -21 & 14 \end{bmatrix}$ then find $\lambda_1 + \lambda_2 + \lambda_3 \wedge$¿ $\lambda_1 \lambda_2 \lambda_3$ | 6 | CO1,2 |
| **Que 02** | **Attempt any three.** | | |
| 1 | Solve by matrix method<br>$x+y+2z=0$, $x+2y+3z=0$, $x+3y+4z=0$, $3x+4y+7z=0$ | 6 | CO1,2 |
| 2 | For what value of $\lambda$ the equations $x+y+z=1$, $2x+y-4z=\lambda$, $4x+5y+10z=\lambda^2$ have a solution & solve completely in each case. | 6 | CO1,2 |
| 3 | Find the Eigen value & Eigen vector for smallest value of $\lambda$ for the matrix $\begin{bmatrix} 2 & 0 & 1 \\ 0 & 2 & 0 \\ 1 & 0 & 2 \end{bmatrix}$ | 6 | CO1,2 |
| 4 | Solve by matrix method<br>$x+y+z=3$, $x+2y+3z=4$, $x+4y+9z=6$ | 6 | CO1,2 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 02

**Class: FY** **Year: 2023-24**
**Div.: A & B** **Sem: I**
**Subject: Engineering Mathematics I**

**Day & Date: Monday, 11/12/2023** **Time: 3.00 pm to 4.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) Figures to the right indicate full marks.
3) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any two.** | | |
| 1 | Verify Cayley- Hamilton Theorem for the matrix $\begin{bmatrix} 3 & -1 & 1 \\ -1 & 5 & -1 \\ 1 & -1 & 3 \end{bmatrix}$ | 6 | CO2,4 |
| 2 | Apply Gauss elimination method ,to solve $2x+ y + z= 10,\quad 3x+2y +3z= 18,\quad x+4y+9z=16$ | 6 | CO2,4 |
| 3 | Find characteristic equation of the matrix A where $A=\begin{bmatrix} 1 & 2 & 3 \\ 2 & -1 & 4 \\ 3 & 1 & -1 \end{bmatrix}$ and find $A^{-1}$ using Cayley- Hamilton Theorem. | 6 | CO2,4 |
| **Que 02** | **Attempt any three.** | | |
| 1 | Solve by using Gauss Jordan method the equations $x+ y + z = 9,\ 2x-¿3y + 4z =13,\ 3x + 4y + 5z =40$ | 6 | CO2,4 |
| 2 | Solve using Jacobi's iteration method the equations $20x +y-¿2z =17,\ 3x + 20y-¿z=-¿18,\ 2x-¿3y+20z =25$ | 6 | CO2,4 |
| 3 | Solve by using Gauss Seidel method the equations $10x+ 2y + z = 9,\quad 2x+20y-¿2z= -¿44,\quad -¿ 2x+3y+10z=22$ | 6 | CO2,4 |
| 4 | Solve by using Jacobi's iteration method upto four iterations only the following equations. $5x + 2y + z =12,\quad x + 4y + 2z=15,\quad x + 2y + 5z=20$ | 6 | CO2,4 |

Dr. J. J. Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

**Class: FY** **Year: 2023-24**
**Div.: A & B** **Sem: I**
**Subject: Engineering Mathematics-I**

**Date: 21/10/2023** **Time: 12.00 noon to 1.00 pm** **Max Marks: 30**

**Instructions:** 1) Non-programmable calculator is allowed.
2) CO denotes course outcomes.

| Que.No | Questions | Marks | CO |
|---|---|---|---|
| **Que 01** | **Attempt any two.** | | |
| 1. | 1. Reduce the matrix to echelon form and find its rank. $\begin{bmatrix} 1234 \\ 214-3 \\ 305-10 \end{bmatrix}$ | 6 | 1,2 |
| 2. | 2. Test for consistency the following equations and if possible solve them by matrix method. $6x + y + z = -¿4, \quad 2x - ¿3y - ¿z = 0, \quad x + 7y + 2z = -¿7$ | 6 | |
| 3. | 3. Solve the following equations $3x + y - ¿ 5z = 0,$ $5x + 3y - ¿ 6z = 0, \quad x + y - ¿ 2z = 0, \quad x - ¿5y + z = 0.$ | 6 | |
| **Que 02** | **Attempt any three.** | | |
| 1. | Test for consistency the following equations and if possible solve them by matrix method. $x + y + ¿ z = -3, \quad 3x + ¿y - ¿2z = -¿2, \quad 2x + 4y + 7z = 7$ | 6 | 1,2 |
| 2. | Investigate for what values of $\beta$ and $\mu$ the equations $x + y + ¿z = 6, \quad x + 2y + ¿ 3z = 10, \quad x + 2y + ¿ \beta z = \mu$ have<br>(i) no solution<br>(ii) a unique solution<br>(iii) infinite number of solutions | 6 | |
| 3. | Find the eigen values of matrix A where A = $\begin{bmatrix} 123 \\ 0-26 \\ 00-3 \end{bmatrix}$. Also find eigen values of $A^{-1}$, $A^4, adj.A$ | 6 | |
| 4. | Find eigen values of matrix A where A = $\begin{bmatrix} 122 \\ 212 \\ 221 \end{bmatrix}$. Also find eigen vector for greatest eigen value of the matrix A. | 6 | |

Dr.J.J.Magdum Trust's

# Dr. J .J. Magdum College of Engineering, Jaysingpur.

## First Year Engineering & Technology Department.

## Continuous Internal Evaluation (CIE) No: 01

**Subject: Engineering Physics**

**Class: F.Y.B.Tech** **Year: 2023-2024**
**Div.: C / D** **Sem: I**

**Date: 21/10/2023** **Time: 10.00 am to 11.00 am** **Max Marks: 30**

**Instructions:** 1.Non-programmable calculator is allowed.
2. Figures to the right indicate full marks, CO & PO.

| Q.No.1 | Solve any FIVE questions from the following. | Marks | CO | PO |
|---|---|---|---|---|
| A) | What is grating? Give theory of plane transmission grating for normal incidence. | 6 | 1,2 | 1 |
| B) | What is double refraction? Give Huygen's theory of double refraction in uniaxial crystals and distinguish between positive and negative crystals. | 6 | 1,2 | 1 |
| C) | Define resolving power of grating and obtain an expression for resolving power of grating. | 6 | 1,2 | 1 |
| D) (i) | In a plane transmission grating the angle of diffraction for second order maxima for wavelength 5000 $A^0$is $30^0$. Calculate the grating constant. | 3 | 3 | 2 |
| (ii) | Calculate the minimum number of lines in a grating which will just resolve the lines of wavelength 5890 $A^0$ and 5896 $A^0$ in the second order. | 3 | 3 | 2 |
| E) | What are the basic requirements of acoustically good hall? | 6 | 1,2 | 1 |
| F) (i) | Define any three from the following-<br>Optic axis, Principal section, Specific rotation, Anisotropic media, Reverberation time. | 3 | 1 | 1 |
| (ii) | The volume of room is 980 $m^3$ . The wall area of the room is 150 $m^2$ , ceiling area is 95 $m^2$ and floor area is 90 $m^2$.The average sound absorption coefficient for i) wall is 0.03 ii) ceiling is 0.8 and iii) floor is 0.06.Calculate the reverberation time. | 3 | 3 | 2 |