**COURSE FILE**

**Engineering Graphics**

DIPLOMA 2nd SEM.

PRO. MUKESH KUMAR

**DEPARTMENT OF AUTOMOBILE ENGINEERING**

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**GOVERNMENT POLYTECHNIC CHAPRA**

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**Time table**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1st10:00-11:00 | 2nd1:00-12:00 | 3rd12:00-1:00 |  | 4th2:00-3:00 | 5th3:00-4:00 | 6th4:00-5:00 |
| MON |  |  |  | LUNCH |  |  |  |
| TUE |  |  |  |  |  |  |
| WED |  |  |  |  |  |  |
| THU |  |  |  |  |  |  |
| FRI |  |  |  |  |  |  |
| SAT |  |  |  |  |  |  |

**Vision**

To be a centre of excellence in the field of Mechanical Engineering offering value based world class education and research producing well qualified engineers, who can contribute favorably to the technological and socio-economic development of the nation.

**Mission**

1. To ensure sufficient modern technological exposure to the students in order to create skilled professionals.

2. To frequently update the labs keeping in view the requirement of the current industry scenario.

3. To extend counseling and career guidance facility to the students to help them to achieve their goal.

4. To encourage faculties and staffs to pursue higher education and to do the research work.

5. To encourage faculties and staffs to participate in various seminars, conferences and workshops to keep themselves updated of the state-of-the-art technology.

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Text/ Reference Books:

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**Lecture plan**

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| **Unit** | **Name of Topic** | **No. of Lecture** | **Date** |
| **01** | Drawing Instruments and supporting materials Convention of lines and their applications. | **Lec-1** | **15/7/22** |
| Representative Fractions - reduced, enlarged and full size scales; | **Lec-2** | **18/7/22** |
| Engineering Scales such as plain | **Lec-3** | **21/7/22** |
| diagonal scale. | **Lec-4** | **22/7/22** |
| Dimensioning techniques types and applications of chain, parallel and coordinate dimensioning.  | **Lec-5** | **25/7/22** |
| Geometrical and Tangency constructions | **Lec-6** | **28/7/22** |
| **Class test-01** |  | **29/7/22** |
| **Assignment-01** |
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| **Unit** | **Name of Topic** | **No. of Lecture** | **Date** |
| **02** | Introduction of projections-orthographic, perspective, isometric and oblique: concept and applications. | **Lec-7** | **1/8/22** |
| Introduction to orthographic projection | **Lec-8** | **4/8/22** |
| First angle and Third angle method, their symbols. | **Lec-9** | **5/8/22** |
| Conversion of pictorial view into Orthographic Views | **Lec-10** | **8/8/22** |
| object containing plain surfaces | **Lec-11** | **11/8/22** |
| object containing solid surfaces | **Lec-12** | **18/8/22** |
| slanting surfaces | **Lec-13** | **22/8/22** |
| slots, ribs, cylindrical surfaces. | **Lec-14** | **25/8/22** |
| **Class test-02** |  | **26/8/22** |
| **Assignment-02** |
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| **Unit** | **Name of Topic** | **No. of Lecture** | **Date** |
| **03** | Introduction to isometric projections | **Lec-15** | **1/9/22** |
| Isometric scale and Natural scale. | **Lec-16** | **2/9/22** |
| Isometric view and isometric projection | **Lec-17** | **5/9/22** |
| Conversion of pictorial view into Orthographic Views | **Lec-18** | **8/9/22** |
| Illustrative problems related to objects containing lines, circles | **Lec-19** | **9/9/22** |
| Illustrative problems related to objects containing arcs shape only.  | **Lec-20** | **12/9/22** |
| Conversion of orthographic views into isometric view | **Lec-21** | **15/9/22** |
| Conversion of orthographic views into isometricprojection. | **Lec-22** | **16/9/22** |
| **Class test-03** |  | **19/9/22** |
| **Assignment-03** |
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| **Unit** | **Name of Topic** | **No. of Lecture** | **Date** |
| **04** | Free Hand Sketches of engineering elements | **Lec-23** | **22/9/22** |
| Free hand sketches of machine elements: Thread profiles, | **Lec-24** | **23/9/22** |
| studs, set screws, | **Lec-25** | **26/9/22** |
| Locking arrangements. (For branches other than mechanical Engineering) | **Lec-26** | **29/9/22** |
| Free hand sketches of orthographic view | **Lec-27** | **30/9/22** |
| Free hand sketches of isometric view | **Lec-28** | **10/10/22** |
| Nuts, washer | **Lec-29** | **13/10/22** |
| **Class test-04** |  | **14/10/22** |
| **Assignment-04** |
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| **Unit** | **Name of Topic** | **No. of Lecture** | **Date** |
| **05** | Computer Aided Drafting: concept. Hardware and various CAD software available. | **Lec-30** | **17/10/22** |
| System requirements and Understanding the interface. | **Lec-31** | **20/10/22** |
| Components of AutoCAD software window: Title bar, standard tool bar, menu bar, | **Lec-32** | **21/10/22** |
| object properties tool bar, draw tool bar, modify tool bar, cursor cross hai | **Lec-33** | **………** |
| Command window, sta- tus har, drawing area, UCS icon. | **Lec-34** | **………** |
| File features: New file, Saving the file, Opening an existing drawing file, Creating templates, Quit | **Lec-35** | **………** |
| Setting up new drawing: Units, Limits, Grid, Snap | **Lec-36** | **………** |
| Undoing and redoing action | **Lec-37** | **………** |
| **Class test-05** |  |  |
| **Assignment-05** |
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| **Unit** | **Name of Topic** | **No. of Lecture** | **Date** |
| **06** | Draw basic entities like Line, Circle, Arc, Polygon, Ellipse, Rectangle, Multiline, PolyLine | **Lec-38** | **………** |
| Method of Specifying points: Absolute coordinates, Relative Cartesian and Polar coordinates. | **Lec-39** | **………** |
| Modify and edit commands like trim, extend, delete, copy, offset, array, block, layers. | **Lec-40** | **………** |
| Dimensioning: Linear, Horizontal Vertical, Aligned, Rotated, Baseline, Continuous, Diameter, | **Lec-41** | **………** |
| Radius, Angular Dimensions. | **Lec-42** | **………** |
| Dim scale variable. Editing dimensions. Text: Single line Text, Multiline text. | **Lec-43** | **………** |
| Standard sizes of sheet. Selecting Various plotting parameters such as Paper size | **Lec-44** | **………** |
| , paper units, Drawing orientation, plot scale, plot offset, plot area, print preview. | **Lec-45** | **………** |
| **Class test-06** |  | **………** |
| **Assignment-06** |
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**Students list**

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| **Branch-Civil Engg.** |
|  |   |
| **Roll Number** | **Name Of the Student** |
| 111131521001 | PUSKAR SINGH |
| 111131521002 | AKASH KUMAR |
| 111131521003 | ABHISHEK KUMAR |
| 111131521004 | ROHIT KUMAR |
| 111131521005 | PRABHAT TRIVEDI |
| 111131521006 | SUJIT KUMAR |
| 111131521007 | ABHISHEK KUMAR |
| 111131521008 | RAHUL KUMAR PRASAD |
| 111131521009 | AMAN KUMAR |
| 111131521010 | SANDIP KUMAR |
| 111131521011 | VINOD KUMAR |
| 111131521012 | DHANANJAY KUMAR |
| 111131521013 | RAUSHAN KUMAR |
| 111131521014 | RAJEEV KUMAR DAS |
| 111131521015 | HARSH RAJ PRAJAPATI |
| 111131521016 | AARAV KUMAR SHARMA |
| 111131521017 | FANISHWAR KUMAR |
| 111131521018 | NITIN KUMAR |
| 111131521019 | RAVI KUMAR |
| 111131521020 | VINAY KUMAR |
| 111131521021 | RAVI KUMAR |
| 111131521022 | RANDHIR KUMAR |
| 111131521023 | NAVEEN KUMAR |
| 111131521024 | ARCHANA KUMARI |
| 111131521025 | RITESH KUMAR |
| 111131521026 | AMAN KUMAR |
| 111131521027 | KUNDAN KUMAR |
| 111131521028 | PRASANT RAJ |
| 111131521029 | MD IMRAN |
| 111131521030 | SUNNY KUMAR |
| 111131521031 | ANKIT KUMAR |
| 111131521032 | BHAWESH KUMAR BHARTI |
| 111131521033 | SANGAM KUMAR |
| 111131521034 | AQUIB HUSSAIN |
| 111131521035 | PRATIMA KUMARI |
| 111131521036 | NAVIN KUMAR NIRALA |
| 111131521037 | ANKIT KUMAR |
| 111131521038 | BHASKAR KUMAR |
| 111131521039 | CHANDAN RAJ |
| 111131521040 | ANKIT RAJ |
| 111131521041 | SANNY KUMAR |
| 111131521042 | AKSHUNYA KUMAR |
| 111131521043 | ABHISHEK KUMAR |
| 111131521044 | MANISH KUMAR |
| 111131521045 | RAVIKANT KUMAR |
| 111131521046 | SANKALP KUMAR |
| 111131521047 | ANUJ KUMAR PANDIT |
| 111131521048 | CHHOTU KUMAR |
| 111131521049 | KARISHMA KUMARI |
| 111131521050 | RATAN KUMAR |
| 111131521051 | SURAJ KUMAR |
| 111131521052 | RANJESH KUMAR |
| 111131521053 | PRINCE KUMAR THAKUR |
| 111131521054 | MD AARIF KHAN |
| 111131521301 | PRITAM RAJ |
| 111131521302 | ABHINAV KUMAR |
| 111131521303 | MANISH KUMAR |
| **Branch-Electronics Engg.** |
|  |   |
| **Roll Number** | **Name Of the Student** |
| 111132121001 | OMPRAKASH GIRI |
| 111132121002 | SHIVAM KUMAR |
| 111132121003 | ASTHA KUMARI |
| 111132121004 | RITESH KUMAR |
| 111132121005 | RESHMI KUMARI |
| 111132121006 | PUSHP RAJ SINGH |
| 111132121007 | ANWESHA SINGH |
| 111132121008 | RAHUL KUMAR PANDEY |
| 111132121009 | SUNNY KUMAR |
| 111132121010 | SUJEET KUMAR |
| 111132121011 | RAJ DEEPAK |
| 111132121012 | PINTU KUMAR |
| 111132121013 | AMAR RAJ |
| 111132121014 | NEHA KUMARI |
| 111132121015 | BEAUTY KUMARI |
| 111132121016 | VISHAL KUMAR |
| 111132121017 | SANDEEP KUMAR |
| 111132121018 | KARAN KUMAR |
| 111132121019 | HASAN RAJA |
| 111132121020 | ANKIT KUMAR |
| 111132121021 | ROHIT KUMAR |
| 111132121022 | VIKASH KUMAR |
| 111132121023 | SUDHANSHU KUMAR |
| 111132121024 | MOHIT KUMAR |
| 111132121025 | ALOK KUMAR SINGH |
| 111132121026 | MONU KUMAR |
| 111132121027 | MONU KUMAR |
| 111132121028 | AMAN KUMAR |
| 111132121029 | ROHIT KUMAR |
| 111132121030 | PRINCE KUMAR |
| 111132121031 | GAUTAM RANJAN |
| 111132121032 | ANKIT KUMAR |
| 111132121033 | RAUSHAN KUMAR |
| 111132121034 | DINKAR KUMAR |
| 111132121035 | MOHAMMAD ALI |
| 111132121036 | AMAN KUMAR |
| 111132121037 | ROZEE KHATOON |
| 111132121038 | RANJEET KUMAR |
| 111132121039 | PRATAP KUMAR SHARMA |
| 111132121040 | RAHUL KUMAR  |
| 111132121041 | SANDEEP KUMAR |
| 111132121042 | RAUSHAN KUMAR |
| 111132121043 | AJAY KUMAR |
| 111132121044 | ANIKET KUMAR CHOUDHARY |
| 111132121045 | POOJA KUMARI |
| 111132121301 | RITESH KUMAR GUPTA |
| 111132121302 | GOVIND KUMAR SAHANI |
| 111132121303 | PUSHPA KUMARI |