NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

DEPARTMENT OF PRODUCTION ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech. II Semester-Electrical and Electronics Engineering		
Course Title	Engineering Graphics		
Course Code	MEIR12	No. of Credits	3
Course Code of Pre-requisite subject(s)	NIL		
Session	January 2023	Section (if, applicable)	B
Name of Faculty	Amit Kumar Hansda Umang Dubey	Department	Production Engineering
Official Email	414121051@nitt.edu 414121053@nitt.edu	Telephone No.	7003892061 8765930437
Name of Course Coordinator(s) (if, applicable)			
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	☐ Core course	☐ Elective course	

Syllabus (approved in BoS)

Fundamentals Drawing standard - BIS, dimensioning, lettering, type of lines, scaling-conventions.

Orthographic projection: Introduction to orthographic projection, drawing orthographic views of objects from their isometric views - Orthographic projections of points lying in four quadrants.

Orthographic projection of lines parallel and inclined to one or both planes Orthographic projection of planes inclined to one or both planes.

Projections of simple solids - axis perpendicular to HP, axis perpendicular to VP and axis inclined to one or both planes.

Sectioning of solids: Section planes perpendicular to one plane and parallel or inclined to other plane.

Intersection of surfaces: Intersection of cylinder & cylinder, intersection of cylinder & cone, and intersection of prisms.

Development of surfaces: Development of prisms, pyramids and cylindrical & conical surfaces. **Isometric and perspective projection**: Isometric projection and isometric views of different planes and simple solids, introduction to perspective projection

Reference Books:

1. Bhatt, N. D. and Panchal, V.M, Engineering Drawing, Charotar Publishing House, 2010.
2. Ken Morling, Geometric and Engineering Drawing, 3rd Edition, Elsevier, 2010
3. Jolhe, D. A., Engineering drawing, Tata McGraw Hill, 2008

4. Shah, M. B. and Rana, B. C., Engineering Drawing, Pearson Education, 2009
5. K.V. Natarajan, A text book of Engineering Graphics, Dhanalakshmi Publishers, Chennai, 2006.

COURSE OBJECTIVES

1. Irrespective of engineering discipline, it has become mandatory to know the basics of Engineering graphics. The student is expected to possess the efficient drafting skill depending on the operational function in order to perform day to day activity.
2. Provide neat structure of industrial drawing.
3. Enables the knowledge about position of the component and its forms Interpretation of technical graphics assemblies.
4. Preparation of machine components and related parts.

MAPPING OF COs with POs

Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
1. Visualize objects in 3D space	1,4,5
2. Solving problems to illustrate concepts	1,5,12
3. Ability to draft and present engineering designs & ideas	1,6,10,12

COURSE PLAN – PART II

COURSE OVERVIEW

- Fundamental of Drawings and Standards
- Geometrical Constructions of basic shapes and conic sections.
- Orthographic views and projections of points, lines,planes, and solids.
- Sections,Intersections,and Development of solids.
- Isometric and Perspective projections

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1.	Week 1	Introduction to Engineering Graphics	PPT, Chalk and Talk
2.	Week 2	Lettering and Dimensions	PPT, Chalk and Talk
3.	Week 3	Construction of basic geometric shapes	PPT, Chalk and Talk

4.	Week 4	Projection of points, Projection of lines	PPT, Chalk and Talk
5.	Week 5	Orthographic projections and orthographic view of objects from their isometric views	PPT, Chalk and Talk
6.	Week 6	Projection of solids	PPT, Chalk and Talk
7.	Week 7	Section of solids- Parallel and perpendicular planes	PPT, Chalk and Talk
8.	Week 8	Section of solids- Inclined planes and intersection of surfaces	PPT, Chalk and Talk
9.	Week 9	Development of surfaces-Cylinder	PPT, Chalk and Talk
10.	Week 10	Assignment/Viva-voice	-----
11.	Week 11	Development of surfaces- Pyramid and prism	PPT, Chalk and Talk
12.	Week 12	Isometric projection	PPT, Chalk and Talk
13	Week 13	Perspective projection	PPT, Chalk and Talk
14	3 hours	End Semester Examination and Viva-voce	----

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Continuous Assessment	Every week	-	60
2	Assignment/Viva-voce	End of Week 8	30 minutes	10

3	End Semester Examination	In Week 16	3 hours	30

COURSE EXIT SURVEY

Feedback from the students during class committee meetings
End semester feedback on course outcomes

COURSE POLICY (including compensation assessment to be specified)

MODE OF CORRESPONDENCE
Students can contact through emails or MS Teams for clarifying doubts.

COMPENSATION ASSESSMENT POLICY
If any student is not able to attend any of the class practice sessions due to genuine reason, student is permitted to attend one compensation class practice session before end semester exam.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

➤ At least 75% attendance in each course is mandatory.

➤ A maximum of 10% shall be allowed under On Duty (OD) category.

➤ Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

➤ Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.

➤ Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.

➤ The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.

➤ The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION, IF ANY

FOR APPROVAL

Amit Kumar Hansda
Research Scholar
Production Engineering Department

Umang Dubey
Research Scholar
Production Engineering Department

Course Faculty _____   **CC- Chairperson** S. Kayal 30|3|23 _____   **HOD** 30|03|23

Amit Kumar Hansda   Dr. S. KAYALVIZHI
(Dubey)

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Guidelines

a) The number of assessments for any theory course shall range from 4 to 6.

b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.

c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.

d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.

f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.

g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.