



GOVT.TOOL ROOM & TRAINING CENTRE

SEMESTER: FIRST

Course: DIPLOMA IN TOOL & DIE MAKING

Syllabus -Theory and practical Subjects [Theory and Practical Ratio 30:70]

Course: 1. DIPLOMA IN TOOL & DIE MAKING

SL. NO	CODE	SUBJECTS	Contact Hours/Week	Contact Hours/Semester
1	DTDM-IS 101	Production Technology – I	3	64
2	DTDM-IS 102	Engineering Mathematics - I	3	64
3	DTDM-IS 103	Applied Science	4	64
4	DTDM-IS 104	English Communication	2	50
Practical's				
5	DTDM-IS 105	Engineering Drawing -I	4	94
6	DTDM-IS 106	Applied Science Lab	3	64
7	DTDM-IS 107	Work Shop - I	20	400

Scheme of Examination

Course: DIPLOMA IN TOOL & DIE MAKING

Sl. No	Sub. Code	Subjects	Contact Hours per Week	Exam. Duration	Scheme of Examination				Total Marks	Min marks for passing
					Exam		Internal Assessment			
					Max Marks	Min Marks	Max Marks	Min Marks		
1	DTDM-IS 101	Production Technology – I	3	3	100	50	20	10	120	60
2	DTDM-IS 102	Engineering Mathematics -I	3	3	100	50	20	10	120	60
3	DTDM-IS 103	Applied Science	4	4	100	50	20	10	120	60
4	DTDM-IS 104	English Communication	2	3	100	50	20	10	120	60
Practical										
5	DTDM-IS 105	Engineering Drawing -I	4	4	100	50	20	10	120	60
6	DTDM-IS 106	Applied Science Lab	3	3	100	50	20	10	120	60
7	DTDM-IS 107	Work Shop - I	20	10	900	540	100	60	1000	600
Total			40	---	1500	840	220	120	1720	960

Note:No.of Working days/Semester:100

No.of Working Hours/Day:8, Total No.of Working hours/semester:800hours

GOVT.TOOL ROOM & TRAINING CENTRE

SEMESTER: FIRST

Course: DIPLOMA IN TOOL & DIE MAKING

PRODUCTION TECHNOLOGY-I

SUBJECT CODE: DTDM-IS 101

1. General safety

- Safety precautions

2. Bench layout

- Work bench
- Arrangement of tools & instruments

3. Hand tools

- Vice
- Files
- Hacksaws
- Chisels
- Wrenches
- Hammers
- Scrapers
- Screw drivers

4. Drills & Drilling machines

- Drills
- Drilling operations
- Drill geometry
- Different types of drilling machines
- Reamers
- Work holding devices
- Calculations RPM- Speeds - Feeds
- Machining time & Coolants

5. Marking & layout tools

- Scribes
- Surface gauges
- Dividers
- Angle plates
- Surface plates

6. Threads

- Taps
- Dies

- Thread terms
- IS standards

7. Measuring instruments

- Tapes
- Rulers
- Try Square
- Venires
- Depth Gauges
- Height Gauges
- Micrometers- Bevel protractors

Reference Books

1. Workshop Technology - S.K.Hazra Chowdhary
2. Production Technology – R K jain
3. Basic Shop theory - Chapmen

ENGINEERING MATHEMATICS - I

Contact Hrs. /Week: 4

Contact Hrs. / Semester: 64

Subject Code: DTDM-IS 102

SPECIFIC INSTRUCTIONAL OBJECTIVES:

1. DETERMINANTS

6 Hrs

- 1.1 Properties of Determinants.
- 1.2 Evaluate Determinants of 2nd & 3rd order- problems.
- 1.3 Cramer's rule-solutions of linear equations in 2nd&3rd unknowns using Determinants - problems.

2.0 MATRICES

6 Hrs

- 2.1 Types of Matrices- square, column row, null, scalar, diagonal.
- 2.2 Addition & Subtraction of a Matrix.
- 2.3 Multiplication and transpose of a matrix.
- 2.4 Define singular and non-singular square matrix.
- 2.5 Find the Minors and cofactors of each elements of matrix.
- 2.6 Define adjoin of square matrix-problems.
- 2.7 Define Inverse of square matrix-problems.
- 2.8 Solutions of simultaneous (linear) equations in 2nd & 3rd unknowns by Determinants problems

3.0 BINOMIAL THEOREM

8 Hrs

- 3.1 Meaning of nCr & Value of nCr
- 3.2 To compute the values nCo , nCn , $nC2$ ----- nCn -problems.
- 3.3 Statement of binomial theorem for positive integer (no proof)
- 3.4 Solve the problems of the following types:-
 - a) Expansion of type $(2x+y)^6$, $(\sqrt{3}+2)^4$, $(x^2-1/\sqrt{x})^8$
 - b) To simplify: $(\sqrt{2}+1)^5 + (\sqrt{2}-1)^5$
 - c) Find the Middle term in $(x+1/x)^6$, $(2x-5)^9$, $(x/y-y/x)^{10}$, etc.
 - d) Find the term Independent of x in $(x^5-1/2x^3)^8$, etc.
 - e) Find the coefficient of x^8 , x^{11} in $(x-1/x^2)^{12}$ & $(ax^4-bx)^{18}$, etc.
 - f) To find the (n-1) th terms in $(x+a)^n$, Ex: - 1)6th term in $(x/2- 2/x)^9$, 2)10th term in $(a/2- /3)^{12}$.

4.0 LOGARITHM

6 Hrs

4.1 Define logarithm, properties of logarithm.

4.2 Derive the laws of logarithm:-

a) $\log_a mn = \log_a m + \log_a n$

b) $\log_a m/n = \log_a m - \log_a n$

d) $\log_a N = \log_a N / \log_a a$ (Change of base)

Solve simple problems on laws of logarithms.

5.0 UNITS & MEASUREMENT OF ANGLES

8 Hrs

5.1 Define an angle.

5.2 Define a right angle in different systems (sexagesimal, centesimal and radian measure)

5.3 Define radian.

5.4 Relation between degree and radian.

5.5 Simple problems to convert degrees into radians and vice-versa

5.6 Prove the radian as a constant angle & Derive $l=r\theta$.

5.7 Derive Area of sector $A=1/2r^2\theta$

5.8 Solve related problems.

6.0 TRIGONOMETRIC RATIOS

10 Hrs

6.1 Define trigonometric ratios for an acute angle.

6.2 Derive three Important formulae: $\sin^2\theta + \cos^2\theta = 1$, $1 + \tan^2\theta = \sec^2\theta$, $1 + \cot^2\theta = \operatorname{cosec}^2\theta$.

6.3 Solve problems using identities.

6.4 Obtain trigonometric ratios of standard angles $0^\circ, 30^\circ, 45^\circ, 60^\circ, 90^\circ$.

6.5 Solve problems using standard values.

7.0 ALLIED ANGLES

8 Hrs

7.1 Definition of allied angles in different quadrants.

7.2 Explain Trigonometric ratios in different quadrants and assign signs (ASTC)

7.3 Give Examples to differentiate positive and negative angles.

7.4 Define positive and negative angles.

7.5 write formulae of $90\pm\theta$, $180\pm\theta$, $270\pm\theta$, $360\pm\theta$ & $(-\theta)$.

7.6 Solve simple problems on allied angles.

8.0 VECTOR ALGEBRA

8 Hrs

8.1 Definition of vector.

8.2 Representation of vector as a directed line segment.

8.3 Magnitude of a vector.

8.4 Types of vectors.

8.5 Position vector.

8.6 Expression of vector by means of position vectors.

8.7 Addition and subtraction of vectors in terms of line segment.

8.8 Vector in plane and vector in a space in terms of unit vector i, j and k respectively.

8.8 Product of vectors.

8.9 Scalar product and vector product of two vectors.

8.10 Applications of dot (scalar) and cross (vector) products.

8.11 Projection of a vector on another vector.

8.12 Work done by force and moment of force

Reference Books

1. First and Second PUC mathematics Text Books of different authors.
2. Polytechnic mathematics Text Books of different authors. And Arshad Quereshi And Prakash Ye
- 3.

ENGINEERING DRAWING – I

SUBJECT CODE: DTDM-IS 105

Contact Hrs./Week: 4

Contact Hrs. / Semester: 94

Subject Code: DTDM-IS 105

ENGINEERING DRAWING – I

SPECIFIC INSTRUCTIONAL OBJECTIVES

1. Drawing Sheets

- 1.1 Introduction to Engineering Drawing
- 1.2 Why Engineering Drawing?
- 1.3 Drawing Sheet Sizes
- 1.4 Layout of a drawing sheet
- 1.5 Folding of drawing sheets

2. Drawing Tools

- 2.1 Pencils
- 2.2 Rule or scale
- 2.3 Compass
- 2.4 Mini drafter
- 2.5 Erasers
- 2.6 Templates

3. Lines and Lettering

- 3.1 Importance of lines and letters
- 3.2 Thickness of lines, relation between the thickness of thick and thin lines.
- 3.3 Types of lines and their application as per SP: 46 – 1988
- 3.4 Lettering as per IS: 9609 – 1990
- 3.5 Vertical and inclined letters and numerical

4. Dimensioning and scales

- 4.1 Purpose of dimensioning
- 4.2 Elements of dimensioning – dimension line, extension line, construction line, arrow heads, leader lines, dimension figure
- 4.3 2 systems of dimensioning – aligned system & Unidirectional system
- 4.4 Methods of dimensioning – chain, parallel, combined, progressive, co-ordinate, equidistant, repeated dimensioning
- 4.5 Dimensioning of holes, radii & cylindrical parts
- 4.6 Dimensioning angles, chamfers & tapers
- 4.7 Shape indication symbols in dimensioning
- 4.8 Scales – purpose, reduced & enlarged scales

5. Projections

- 5.1 Theory of projection – observer, projectors, plane of projection
- 5.2 Difference between orthographic and pictorial views
- 5.3 System of projection – first angle and third angle projection and their symbols

- 5.4 Orthographic projection – principal views, relation between the view and the plane of projection
- 5.5 Relative positions of different views in first angle and third angle projections
- 5.6 Pictorial views – isometric view, oblique view and perspective view
- 5.7 Isometric views – method of drawing isometric views, representation of circle in isometric view
- 5.8 Conversion of the given isometric view to 4 orthographic views
- 5.9 Conversion of the given orthographic views to an isometric view
- 6.0 Exercises on missing lines & missing views

6. Sectional views

- 6.1 Need for sectioning
- 6.2 Sectional plane and its representation
- 6.3 Projection of sectional views – assumptions
- 6.4 Hatching lines – inclination of hatching lines, spacing between hatching lines, methods of hatching
- 6.5 Types of sections – full section & half section, partial section, revolved section, removed section, offset section, aligned section, successive sections
- 6.6 Representation of threaded portions- external thread, internal thread & assembly, sectioning of threads, interpretation of bolt and nut
- 6.7 Rules in sectioning
- 6.8 Exercise

Reference Books

- 1 Elementary engineering drawing : N.D.Bhatt
- 2 Engineering Drawing : K.R. Gopal Krishna
- 3 Fundamentals of Engineering drawing : R.K. Dhawan
- 4 Engineering Drawing : I.S. Morries
- 5 Step by step engineering drawing : Vee Ess
- 6 Engineering graphics : Verges
- 7 Engineering drawing by Venugopal

Contact Hrs./Week: 4

Contact Hrs. / Semester: 64

Subject Code: DTDM-IS 103

APPLIED SCIENCE

SPECIFIC INSTRUCTIONAL OBJECTIVES:

UNITS, DIMENSIONS & MEASUREMENTS

1. Physical Quantity

10 Hrs

- 1.1 Define unit of a physical quantity
- 1.2 List different system of units
- 1.3 List the fundamental units
- 1.4 List the derived units
- 1.5 Define S.I Units.
- 1.6 List the basic quantities.
- 1.7 Write the basic units and symbols for them.
- 1.8 List the supplementary units & symbols for them.
- 1.9 Write the prefix for multiples and submultiples in S.I system
- 1.10 State the advantages of S.I Units
- 1.11 Define dimension of physical quantity
- 1.12 Write the examples of dimension of physical quantity
- 1.13 State the steps used for writing the dimension of a physical quantities
- 1.14 Define dimensional equation (dimension formula) for a physical quantity
- 1.15 State the advantages & disadvantages of dimensional equations
- 1.16 Define measurement.
- 1.17 lists the instruments used in measuring accurately
- 1.18 Define least count of measuring instruments
- 1.19 Define principle of Vernier
- 1.20 Identify the parts of slide calipers
- 1.21 Explain about Zero error & its correction in case of slide calipers
- 1.22 Define least count of venires calipers.
- 1.23 Describe the measurement of MSR & VSR (CVD)
- 1.24 State the uses of Vernier calipers
- 1.25 Solve the Measurement problems on Vernier Calipers
- 1.26 Define Principle of screw and nut (Micrometer principle)
- 1.27 Identify the parts of screw gauge & label its parts
- 1.28 Explain for writing Zero error & zero correction
- 1.29 Define pitch of screw
- 1.30 Define least count of Screw gauge
- 1.31 Explain measurement of PSR & HSR of screw gauge
- 1.32 Solve measurement problems on screw gauge.

2. BASICS OF DYNAMICS

10 Hrs

- 2.1 To understand the types of motion with examples
- 2.2 To understand various physical quantities related to linear motion
- 2.3 Define displacement, speed, velocity- uniform, variable, average
- 2.4 Define acceleration – uniform, variable and average
- 2.5 Solve problems on the equations of motions.
- 2.6 State Newton's 1st law
- 2.7 Define force
- 2.8 Define inertia

- 2.9 Define inertia of rest
- 2.10 Give examples for inertia of rest
- 2.11 Define inertia of motion
- 2.12 Give examples for inertia of motion
- 2.13 Define inertia of Direction.
- 2.14 Give examples of inertia of Direction.
- 2.15 Define Momentum
- 2.16 State Newton's 2nd law Of Motion
- 2.17 Review $F=ma$
- 2.18 Solve problems on $F=ma$
- 2.19 Define impulse as a product of force and time
- 2.20 Write S.I units & dimension of Impulse.
- 2.21 Obtain impulse as difference of Momentum
- 2.22 Write Examples of Impulse
- 2.23 Solve problems of Impulse
- 2.24 State NEWTON'S 3rd law
- 2.25 Give examples for 3rd Law
- 2.26 State Law of conservations of Momentum
- 2.27 Prove the Law of Conservation of Momentum using Newton's Laws
- 2.28 Solve Simple problems
- 2.29 Define Friction
- 2.30 Point out the causes of Friction.
- 2.31 List out the Types of Frictions
- 2.32 Define static Frictions
- 2.33 Define limiting friction
- 2.34 Define Kinetic Friction
- 2.35 Define rolling Friction
- 2.36 Define sliding friction
- 2.37 Define Co-efficient of Friction
- 2.38 Write advantages of Friction
- 2.39 Write the disadvantages of friction
- 2.40 Discuss the preventive method of Friction.

3. CIRCULAR & PLANETARY MOTION

6 Hrs

- 3.1 Define Angular velocity, Write its unit
- 3.2 Derive the relation between Angular velocity & Linear speed.
- 3.3 Define Angular Acceleration, Write its Unit and dimension
- 3.4 Derive the relation between linear & Angular Acceleration.
- 3.5 To study new tons laws of gravitation & Understand its relevance to planetary motion
- 3.6 Explain gravity.
- 3.7 State & explain Newton's law of gravitation
- 3.8 Write SI unit & dimension of G
- 3.9 Drive relation between g & G
- 3.10 Solve simple problems.

4. WORK, POWER & ENERGY

6 Hrs

- 4.1 Explain the Meaning of work
- 4.2 Explain $W=F.S.\cos\theta$, when $\theta=0$, $\theta=90$, $0<\theta<90$.
- 4.3 Write SI unit & dimension of Work
- 4.4 Solve simple problems
- 4.5 To study the concept of power

- 4.6 Explain the meaning of power
- 4.7 Write SI unit & Dimension of power
- 4.8 Define horse power (HP)
- 4.9 Write relation between HP & Watt
- 4.10 Solve simple problems
- 4.11 To study the concept of energy
- 4.12 Explain the meaning of energy
- 4.13 Explain the different forms of energy
- 4.14 Mention different forms of mechanical energy
- 4.15 Explain kinetic energy with examples
- 4.16 Derive an expression for Kinetic energy
- 4.17 Explain potential energy with Examples
- 4.18 Derive an expression for potential energy
- 4.19 State & explain the law of conservation of potential energy
- 4.20 Illustrate this law in the case of freely falling body & simple pendulum
- 4.21 Solve simple problems

5. HEAT

4 Hrs

- 5.1 To understand heat & the different modes of transmission of heat
- 5.2 Differentiate between heat & temperature with ex.
- 5.3 Explain conduction, convection & radiation with ex.
- 5.4 Explain heat insulation with examples
- 5.5 Define specific heat of a substance
- 5.6 Write SI unit of specific heat
- 5.7 Explain 1st & 2nd Laws of thermodynamics
- 5.8 Solar energy
- 5.9 Explain solar energy as non conventional, renewable, pollution free & eco-friendly energy
- 5.10 Write the applications of solar energy
- 5.11 List the advantages and limitations of solar energy

6. VECTORS

8 Hrs

- 6.1 Define equilibrium of vectors.
- 6.2 Define equilibrant.
- 6.3 Write the relation between resultant and equilibrant.
- 6.4 State and explain the law of parallelogram of vectors.
- 6.5 Obtain expression for the magnitude and direction of the resultant of two vectors acting at a point.
- 6.6 Explain resolution of vectors.
- 6.7 Solve problem on parallelogram law and resolution of vector.
- 6.8 State and explain the converse of law of triangle of vectors.
- 6.9 State and explain the law of polygon of vectors.
- 6.10 State and explain Lamis theorem.
- 6.11 Derive experiments to verify the law of parallelogram of vectors and the converse of the law of triangle of vectors and Lamis theorem.
- 6.12 Solve problem on law of triangle of vector, Lamis theorem.
- 6.13 Define moment of force.
- 6.14 Write SI Unit and dimension of it.
- 6.15 Define positive and negative moment of force.
- 6.16 Define couple and moment of a couple.
- 6.17 Write practical applications of couple.
- 6.18 Define like and unlike parallel forces.
- 6.19 Explain the resultant of like parallel forces.

- 6.20 Explain the resultant of unlike parallel forces.
- 6.21 Explain the condition of equilibrium of no. of coplanar parallel force
- 6.22 Describe an experiment to verify the conditions of equilibrium of parallel coplanar force
- 6.23 Solve problems on parallel force.

7. PROPERTIES OF SOLIDS & LIQUIDS

10 Hrs

- 7.1 Define elasticity with examples.
- 7.2 Explain the meaning of elastic limit.
- 7.3 Define plasticity With example
- 7.4 Define stress
- 7.5 Write SI unit & Dimension of Stress.
- 7.6 Define Tensile stress with examples.
- 7.7 Define volume stress with examples.
- 7.8 Define shear Stress with examples.
- 7.9 Define strain.
- 7.10 Define tensile Strain with examples.
- 7.11 Define Volume strain with examples.
- 7.12 Define shear Strain with examples
- 7.13 Define HOOKE'S law.
- 7.14 Explain limitations of HOOKE'S law
- 7.15 Define Co-efficient of elasticity, (Modulus of elasticity).
- 7.16 Write the formula of MODULUS OF ELASTICITY.
- 7.17 Define Young's modulus. Write its formulas.
- 7.18 Write its SI Units & Dimensions.
- 7.19 Define bulk modulus & Write its formula. Write its SI Unit & Dimensions.
- 7.20 Define rigidity modulus & write its Formula.
- 7.21 Write its SI Units & Dimensions.
- 7.22 Define Factors of safety.
- 7.23 Write its formula
- 7.24 Describe an experiment to determine Young's modulus of a material using Searle's apparatus.
- 7.25 Solve problems.
- 7.26 Explain liquid as a State of Matter.
- 7.27 Define thrust & write its SI unit.
- 7.28 Define pressure & Write its SI Unit.
- 7.29 Derive an expression for the pressure at a point inside a liquid at rest
- 7.30 Solve problems.
- 7.31 Define adhesive force With examples.
- 7.32 Define cohesive Force with an example.
- 7.33 Define angle of contact With examples
- 7.34. Define surface tension.
- 7.35. Write the formula, SI units & Dimension of it.
- 7.36 Give example for the existence of surface tension
- 7.37 Explain the factors affecting the surface tension
- 7.38. Write the applications of surface tension.
- 7.39. Define capillary rise & Capillarity.
- 7.40 Explain Viscous force

- 7.41 Define Viscosity
- 7.42 Explain the factors affecting the viscous force.
- 7.43 Explain co-efficient of Viscosity
- 7.44 Write SI unit & Dimension of co-efficient of Viscosity
- 7.45 Discuss the Effect of temperature on viscosity of liquid & Gases
- 7.46 List the applications of viscosity.

8. WAVE MOTION

3 Hrs

- 8.1 List the characteristics of stationary waves.
- 8.2 Define free Vibrations With examples.
- 8.3 Define Forced Vibrations With examples.
- 8.4 Define resonance with examples.
- 8.5 Define Beat and Beat frequency
- 8.6 State application of beats

9. ENGINEERING CHEMISTRY

4 Hrs

- 9.1 Write the harmful effects of air pollution.
- 9.2 Explain Acid rain & its effect.
- 9.3 Explain Green house effect.
- 9.4 Explain global warming
- 9.5 List the effects of global warming.
- 9.6 Discuss the causes of Water pollution(sewage,effluents,algai & micro organisms)
- 9.7 Explain the methods of control of sewage problems and Disposals
- 9.8 Define corrosion.
- 9.9 Describe Diff. types of corrosion

10. pH of Solution & its Industrial Applications

3 Hrs

- 10.1 Explain nature of Solution on the basis of (H^+) ion & (OH^-) ion Concentration
- 10.2 Explain ionic product of Pure Water
- 10.3 Define Neutral, Basic, & Acidic solution
- 10.4 Define pH of a solution.
- 10.5 Define Neutral Basic & Acid solution by using pH
- 10.6 Give the pH values of some solutions.
- 10.7 Write the applications of pH solution.

REFERENCE BOOKS

- 1 First PUC and Second PUC Physics Text Books – by different authors.
- 2 Text book of physical chemistry by P.L.Soni publisher S.Chand and Co.
- 3 Essentials of physical chemistry by B.S.Bhal and G.B.Tuli,
- 4 Text book of physical chemistry by K.K.Sharma and L.K.Sharma, Vikas publication house.
- 5 Applied Science for polytechnics- by different authors.

Contact Hrs. /Week: 3

Contact Hrs. / Semester: 64

APPLIED SCIENCE LAB

SUBJECT CODE: DTDM-IS 106

EXP-1

- To determine the volume of the given solid cylinder using Vernier callipers.

EXP-2

- To determine the volume of the given hollow cylinder using Vernier callipers.

EXP – 3

- To determine the thickness of the glass & metal plate using Micrometer.

EXP – 4

- To determine the volume of the thin wire screw gauge & sample wire.

EXP – 5

- To determine the volume of small rigid ball using screw gauge.

EXP – 6

- To verify the law of parallelogram of vectors.

EXP – 7

- To verify the converse of law of triangle of vectors.

EXP – 8

- To verify [lami's theorem]

EXP – 9

- To verify two conditions of equilibrium of coplanar parallel forces.

EXP – 10

- To determine Young's modulus of the material of wire using Searle's app.

EXP – 11

- To determine surface tension of water by capillary rise method.

EXP – 12

- To determine the frequency of the given tuning fork using sonometer by comparison method.

EXP – 13

- To determine the frequency of the given tuning fork using Sonometer by absolute method.

EXP – 14

- To determine velocity of sound in air at room temperature & at 0°C a by resonance air column method

EXP – 15

- To determine coefficient of viscosity of water by Ponselle's method.

ENGLISH COMMUNICATION

SUBJECT CODE: DTDM-IS 104

Learning goals for English Communication

On completion of this subject, the trainees will be able to:

- To provide an adequate mastery of communicative English Language training primarily – reading and writing skills, secondarily listening and speaking skills.
- Improvement of English communication skills of I semester students of diploma courses in engineering and technology.

Contact Hrs./Week: 2

Contact Hrs. / Semester: 50

SPECIFIC INSTRUCTIONAL OBJECTIVES:

1. READING SKILL

The student is able to :

- 1.1 Understand the difficult words and phrases in the lesson
- 1.2 Use the words and phrases correctly in his own sentences
- 1.3 Read the lesson properly without mistakes
- 1.4 Read the given passage correctly.

2. WRITING SKILL

The student is able to:

- 2.1 Write the answers correctly to the questions on the lessons
- 2.2 Write personal letters in the proper format without mistakes
- Use words and phrases in his own sentences

3. PRACTICAL KNOWLEDGE OF GRAMMAR

The student is able to :

- 3.1 Use verbs correctly
- 3.2 Use various phrases appropriately
- 3.3 Use interrogatives and negatives
- 3.4 Convert active voice into passive and vice versa
- 3.5 Frame questions, question tags and give short form answers correctly
- 3.6 Use prepositions appropriately

4. COMPREHENSION

- 4.1 The student is able to read and understand the seen & unseen passages and answer the questions given

5. CREATING AWARENESS

- 5.1 The student becomes aware of current environmental issues and about his responsibilities toward environment factors.
- 5.2 Awareness about Right to Information Act

Reference Books

**“ENGLISH COMMUNICATION FOR POLYTECHNICS” By NITTTR, Chennai
and Published by Orient Black Swan Pvt Ltd, Hyderabad.**

Note: No change in Workshop practical's