

Manorama Industrial Training Institute



Address: - Rani Talab, Sabour road, Bhagalpur, 813210

A unit of Manorma Group of Education

Head Office:- Rani Talab, Sabour road, Bhagalpur, 813210

It runs under the Disha Education & Social welfare Trust

Registration No: - 537/4/7/81-93/CD-34/107

We prefer all type of Education to Children

Available Trade: - 1.Electrician

2. Fitter

1. Placement (Campus Selection)
2. Apprenticeship
3. Hostel
4. Library
5. Scholarship

Website:- <http://manormagroup.com>

Contacts No:- 8051864903
9931722151
9430202666

Syllabus of Fitter



SYLLABUS FOR TRADE THEORY(SEMESTER-3)

Week No.	Trade Theory
1	Safety precautions to be observed while working on a lathe specification, and constructional features. Lathe main parts descriptions - bed, head stock, carriage, tail stock, feeding and thread cutting mechanisms. Holding of job between centers, works with catch plate, dog, simple description of a facing and roughing tool and their applications.
2	Lath cutting tools- Brief study of the nomenclature of Lath cutting tools and necessity of correct grinding, solid and tipped, throw away type tools, cutting speed and feed and comparison for H.S.S., carbide tools. Use of coolants and lubricants.
3	Chucks and chucking the independent four-jaw chuck. Reversible features of jaws, the back plate, Method of clearing the thread of the chuck-mounting and dismounting, chucks, chucking true, face plate, drilling- method of holding drills in the tail stock, Boring tools and enlargement of holes.
4	General turning operations - parallel or straight, turning. Stepped turning, grooving, and shape of tools for the above operations. Appropriate method of holding the tool on tool post or tool rest, Knurling:- tools description, grade, uses, speed and feed, coolant for knurling, speed, feed calculation. Taper- definition, use and method of expressing tapers. Standard tapers-taper, calculations morse taper.
5	Screw thread definition - uses and application. Terminology of screw threads, square, worm, buttress, acme (non standard- screw threads), Principle of chasing the screw thread - use of centre gauge, setting tool for cutting internal and external threads, use of screw pitch gauge for checking the screw thread.
6	Screw: material, different types (inch & metric), uses. Testing scraped surface: ordinary surfaces without a master plate.
7	Special files: types (pillar, Dread naught, Barrow, warding) description.
8	System of drill size, Fractional size: number, letter and metric. Templates and gauges- Introduction, necessity, types. Limit gauge: Ring gauge, snap gauge, plug gauge, description and uses.
9	Description and uses of gauge- types (feeler, screw, pitch, radius, wire gauge),
10	Slip gauge: Necessity of using, classification & accuracy, set of blocks (English and Metric). Details of slip gauge. Metric sets 46: 103: 112. Wringing and building up slip gauge and care and maintenance. Application of slip gauges for measuring, Sine bar- Principle, application & specification. Procedure to check adherence to specification and quality standards.
11	Locking device: Nuts- types (lock nut castle nut, slotted nuts, swam nut, grooved nut) Description and use.

12	Lapping: Application of lapping, material for lapping tools, lapping abrasives, charging of lapping tool. Surface finish importance, equipment for testing - terms relation to surface finish. Equipme for tasting surfaces quality - dimensional tolerances of surface finish.
13	Honing: Application of honing, material for honing, tools shapes, grades, honing abrasives. Frosting- its aim and the methods of performance.
14	Manufacture: The name and types of gauge commonly used in gauging finished product-Method of selective assembly 'GO' system of gauges, hole plug basis of standardization.
15	Bearing- Introduction, classification (Journal and Thrust), Description of each, ball bearing: Single row, double row, description of each, and advantages of double row.
16	Roller and needle bearings: Types of roller bearing. Description & use of each . Industrial visit.
17	Synthetic materials for bearing: The plastic laminate materials, their properties and uses in bearings such as phenolic, teflon polyamide (nylon).
18	Method of fitting ball and roller bearings.
19	Bearing metals - types, composition and uses, lubricants purpose of using different types, description and uses of each type.
20	Hardening and tempering, purpose of each method, tempering colour chart.
21	Annealing and normalising, purpose of each method.
22 & 23	Implant Training/ Project work (Work in a team)
24 & 25	Revision
26	Examination

SYLLABUS FOR WORKSHOP SCIENCE AND CALCULATION (SEMESTER-3)

Week No.	Workshop Science and Calculation
1	Revision of 1 st year course.
2	Heat and temperature, thermometric scales their conversions.
3	Rectangle, square, Rhombus, parallelogram and their properties.
4	Circle and properties circle: regular polygons. Application of geometrical to shop problems.
5 & 6	Forces definition. Compressive, tensile, shear forces and simple problems.
7	Temperature measuring instruments. Specific heats of solids & liquids, quantity of heat.
8	Heat loss and heat gain, with simple problems.
9	Mensuration: Plain figures - triangles, square, rectangle, parallelogram.
10	Mensuration : Plain figures- segment and sector of circle, ellipse, fillets. Plain figures. Trapezium, regular polygons, circle, hollow circles.
11	Mensuration: Solid figures: Prism, cylinder, pyramid, cone. Solid figures: frustum of a cone, sphere, spherical segment.
12	Material weight and cost problems related to trade.
13	Trigonometry: trigonometric ratios, use of trigonometric table.
14	Area of triangle by trigonometry.
15	Finding height and distance by trigonometry.
16	Application of trigonometry in shop problems. Industrial visit.
17 & 18	Application of trigonometry in shop problems.
19 & 20	Levers- definition, types and principles of levers.
21	Mechanical Advantage, velocity ratio and mechanical efficiency.
22 & 23	Implant Training/ Project work (Work in a team)
24 & 25	Revision
26	Examination

SYLLABUS FOR ENGINEERING DRAWING (SEMESTER-3)

Week No.	Engineering Drawing
1	Revision of first year topics.
2	Machined components and surface finish symbols.
3	Screw thread, their standard forms as per Bis, external and internal thread, conventions on the features for drawing as per BIS.
4	Sketches for bolts, nuts, screw and other screwed members.
5	Sketching of foundation bolts and types of washers.
6	Standard rivet form as per BIS.
7	Riveted joints - Butt & Lap
8 & 9	Sketches of keys, cotter and pin joints.
10 & 11	Sketch for simple pipe, unions with simple pipe line drawings.
12	Concept of preparation of assembly drawing and detailing. Simple assemblies & their details of trade related tools/job/exercises with the dimensions from the given sample or models.
13	Single Tool post for the lathe with washer and screw.
14	Details and assembly of vee-locks with clamps.
15	Details and assembly of vee-locks with clamps.
16	Details and assembly of shaft and pulley.Industrial visit.
17	Details and assembly of shaft and pulley.
18	Details and assembly of bush bearing.
19	Details and assembly of bush bearing.
20	Details and assembly a simple coupling
21	Sketching of different gear wheels and nomenclature.
22 & 23	Implant Training/ Project work (Work in a team)
24 & 25	Revision
26	Examination

SYLLABUS FOR TRDE PRACTICAL (SEMESTER-3)

Week No.	Trade Practical
1	Making a "V" Grooves
2	Holes on spot face pilot rill enlarge hole
3	Threading practice by using cut "V" thread
4	Sliding fitting job scrap on two flat surface
5	File & fit combined fitter with straight
6	Drilling and reaming, Diamond fitting, Lapping flat
7	Dovetailed fitting radius fitting
8	Step term and load job in jow chuck
9	Drilling and reaming small dia
10	Sliding fitting diamond fitting lapping flat
11	Stepped keyed fitting test job lapping holes
12	Making snap gauge for checking a dia
13	Scrape angular mating surface
14	Practice in dovetail fitting assembly and dowel
15	Preparation of gap gauges
16	Dovetail and dowel pin assembly
17	Scrapping cylindrical bore and to make fit make
18	Scrapping cylindrical tapper bore check taper
19	Prepartion of center, squares, drills gauge
20	File and fit straight and angular surface
21	Lathe operation the facing, parting and form tools
22 & 23	Implant Training/ Project work (Work in a team)
24 & 25	Revision
26	Examination