



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B.Voc), 1st Semester
Branch: Production Technology
Subject Name: Machinist
Subject Code: 21110308

**With effective
from academic
year 2021-22**

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE(E)	PA (M)	PA(V)	PA (I)		
00	00	15	15	00	00	100	100	200

L- Lectures; P- Practical; OJT- On Job Training; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Content:

Sr. No.	Topic	No. of Hours	% Weightage
1	<p>Basic fitting operation</p> <p>Marking, Hack sawing, Chiseling, Filing, Drilling, Taping and Grinding etc. Accuracy: $\pm 0.25\text{mm}$. Plan and organize the work to make job as per specification applying different types of basic fitting operation and check for dimensional accuracy following safety precautions</p> <p>Different Operations - Drilling, Reaming, Tapping, Dieing; Appropriate Measuring Instrument – Vernier, Screw Gauge, Micrometer. Produce components by different operations and check accuracy using appropriate measuring instruments</p> <p>Make different fit of components for assembling as per required tolerance observing principle of interchangeability and check for functionality.</p>	20	10
2	<p>Machine Tool</p> <p>Set different shaped jobs on different chuck and demonstrate conventional lathe machine operation observing standard operation practice.</p> <p>Different component of machine: Form tool, Compound slide, tail stock offset; Different machine parameters- Feed, speed, depth of cut</p> <p>Set the different machining parameters and cutting tool to prepare job by performing different slotting operation.</p> <p>Set the different machining parameters and cutters to prepare job by performing different milling operation and indexing.</p> <p>Re-sharpen different single & multipoint cutting tool.</p> <p>Produce components of high accuracy by different operations using grinding</p> <p>Set (both job and tool) CNC turning center and produce components as per drawing by preparing part programme</p>	80	40



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3	Workshop Calculation and Job preparation Units, ratio & proportion, density, Percentage, menstruation, trigonometry, graph. Preparation of Job using Lathe Machine Preparation of Job using Milling Machine	80	40
4	Workshop Safety Importance of safety & general precaution observed in the industry/shop floor. Introduction to first aid, Introduction of PPE. Introduction of 5S ,concept & application	10	5
5	Soft Skill Introduction to communication skills, Motivational Training, Behavioral Skills, English Literacy.	10	5

Reference

MACHINIST (NSQF Level 5)