BT MRE-III(R/S)-11-24-3440 Reg. No. | | | | | | | | |

A

B.Tech. Degree III Semester Regular/Supplementary Examination in Marine Engineering November 2024

19-208-0303 PRODUCTION TECHNOLOGY

(2019 Scheme)

Time: 3 Hours Maximum Marks: 60

Course Outcome

On successful completion of the course, the students will be able to:

CO1: Understand the different metal fabrication processes and their characteristics.
CO2: Understand the principle of working, specification, different types and different operations performed in lathe and drilling machine.
CO3: Learn the principle of working, specification, different types and different operations performed in shaping machines, milling and grinding machines.
CO4: Gain knowledge about the different measuring instruments and overhauling on board equipments.
CO5: Get the concept of the different welding methods.

Bloom's Taxonomy Levels (BL): L1 – Remember, L2 – Understand, L3 – Apply, L4 –Analyze, L5 – Evaluate, L6 – Create

PI – Programme Indicators

(Answer *ALL* questions) (5 × 15 = 75)

			Marks	BL	CO	PI
I.	(a)	Explain the various functions and classifications of the following tools with neat sketches. (i) Files. (ii) Chisels.	8	L2	1	1.3.1
	(b)	Differentiate between orthogonal cutting and oblique cutting with neat sketches.	7	L2	1	1.3.1
		OR				
II.	(a)	Explain the ASA tool signature system with suitable example.	8	L3	1	1.3.1
	(b)	Explain the mechanism of chip formation and discuss on various shear zones.	7	L1	1	1.3.1
III.	(a)	Describe the features and specification of engine lathe.	6	L2	2	1.3.1
	(b)	Explain in detail various lathe attachments with neat sketches.	9	L3	2	1.3.1
		OR				
IV.	(a)	Explain the various types of lathe operations with suitable sketches.	9	L2	2	1.3.1
	(b)	Explain the parts of a drilling machine with a neat sketch.	6	L3	2	1.3.1
V.	(a)	Describe on the principle of jigs and fixtures.	5	L2	3	1.3.1
	(b)	Explain in detail the following types of milling operations with relevant sketches (i) End milling. (ii) Straddle milling. (iii) Angular milling. (iv) Slab milling.	10	L2	3	1.3.1
		OR				
VI.	(a)	Describe the following abrasive operations. (i) Lapping. (ii) Honing.	7	L2	3	1.3.1
	(b)	Describe the various operations done on grinding wheel.	8	L3	3	1.3.1

(P.T.O.)

			Marks	BL	CO	PI
VII.	(a)	What is the principle of interchangeability?	4	L1	4	1.3.1
	(b)	Explain various types of fits with suitable sketches.	6	L2	4	1.3.1
	(c)	Explain various types of mechanical hazards commonly occur in workshops.	5	L1	4	1.3.1
		OR				
VIII.	(a)	Discuss on various tolerance grades with applications.	4	L2	4	1.3.1
	(b)	Discuss on the application of various personal protective equipment commonly used in shop practices.	5	L2	4	1.3.1
	(c)	Draw and explain various types of safety symbols.	6	L1	4	1.3.1
IX.	(a)	Explain various types of gas welding flames with suitable sketches.	6	L2	5	1.3.1
	(b)	Describe on the followings: (i) AC welding. (ii) DC welding. (iii) Spot welding.	6	L3	5	1.3.1
	(c)	Distinguish between wave soldering and reflow soldering (Definition only).	3	L2	5	1.3.1
		OR				
X.	(a)	Briefly describe the various types of welding electrodes with suitable examples.	6	L3	5	1.3.1
	(b)	Explain the following brazing methods (i) Torch brazing. (ii) Induction brazing. (iii) Dip brazing.	9	L2	5	1.3.1

Blooms's Taxonomy Level
L1 – 14.67%, L2 – 56.67%, L3 – 28.66%.

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