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***B.Tech. Degree III Semester Regular/Supplementary Examination in
Marine Engineering November 2022***

**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

PO – Programme Outcome

		(5 × 15 = 75)	Marks	BL	CO	PO
I.	(a) Explain the various functions and classifications of the following tools with neat sketches. (i) Calipers (ii) Chisels.	8	L2	1	1	
	(b) Explain the tool geometry of a single point cutting tool with neat sketches.	7	L2	1	1	
OR						
II.	(a) Distinguish between orthogonal cutting and oblique cutting with proper schematic representation.	8	L3	1	1	
	(b) Define tool signature. Represents ASA tool signature system with suitable example.	7	L1	1	1	
III.	(a) Describe the important features of a centre lathe.	6	L2	2	1	
	(b) Explain the following lathe accessories with neat sketches: (i) Screwed Mandrel (ii) Catch plate (iii) Carriers.	9	L3	2	1	
OR						
IV.	(a) Describe the following lathe operations done by holding the work by a chuck. (i) Reaming (ii) Boring (iii) Tapping.	9	L2	2	1	
	(b) Draw, label and list the important parts of a drilling machine.	6	L3	2	1	

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V.	(a)	Distinguish between up milling and down milling.	5	L2	3	1
	(b)	Explain the following milling operations with relevant sketches.	10	L2	3	1
		(i) Plain milling				
		(ii) Straddle milling				
		(iii) Angular milling				
		(iv) Form milling.				
OR						
VI.	(a)	With a neat sketch explain the core parts of a slotter machine.	7	L2	3	1
	(b)	Describe the procedure of grinding wheel specifications. Specify the given wheel 51A80R4S25.	8	L3	3	1
VII.	(a)	Describe the following:	9	L1	4	1
		(i) Unilateral and bilateral tolerances				
		(ii) Fit terminology				
		(iii) Tolerance grade.				
	(b)	Describe the important precision measuring instruments with suitable examples.	6	L2	4	1
OR						
VIII.	(a)	Describe the following non precision equipments	4	L2	4	1
		(i) Depth gauge				
		(ii) Telescopic gauge.				
	(b)	Explain the significance of personal protective equipments. Give examples of various PPE.	5	L2	4	1
	(c)	Describe the following terms:	6	L1	4	1
		(i) Types of hazards				
		(ii) Classes of fire				
		(iii) Safety symbols.				
IX.	(a)	Explain various gas welding equipments with suitable sketch.	6	L2	5	1
	(b)	Describe on the followings:	6	L3	5	1
		(i) Carburizing flame				
		(ii) Neutral flame				
		(iii) Oxidizing flame.				
	(c)	Distinguish between tin lead solders and lead free solders.	3	L2	5	1
OR						
X.	(a)	With the help of a neat sketch describe on various weld joints.	6	L3	5	1
	(b)	Explain the following terms:	9	L2	5	1
		(i) Spot welding				
		(ii) Soldering				
		(iii) Brazing.				

Bloom's Taxonomy Levels

L1 – 14.67%, L2 -56.67%, L3 - 28.67%.
