

Name of Course: XII Mechanical Technology (IA,IB,IC)
PAPER: I OPERATION AND MAINTENANCE OF MACHINE TOOLS - I (IA)
Blue Print

Sr. No.	Unit	Knowledge			Understanding			Application			Total	Total Marks with option
		Objective	Short Answer	Long Answer	Objective	Short Answer	Long Answer	Objective	Short Answer	Long Answer		
1	Center lathe	1(1)	3(1)	-	1(1)	3(2)	-	1(1)	-	4(1)	10	16
2	Capston & Turret lathe machine	1(1)	-	-	1(2)	3(1)	6(1)	-	-	6(1)	12	18
3	Shapping machine	1(1)	-	-	1(1)	3(1)	-	1(2)	3(1)	6(1)	12	16
4	Planning machine	-	3(1)	-	1(1)	3(1)	4(1)	1(1)	-	4(1)	10	16
5	Slotting machine	1(2)	-	4(1)	-	-	4(1)	1(2)	-	4(1)	10	16
6	Errection and testing of machines	1(1)	3(1)	-	-	3(1)	4(1)	1(1)	-	4(1)	10	16
7	CNC lathe programming	1(1)	-	4(1)	1(1)	3(2)	-	-	-	4(1) 6(1)	16	22
	No. of questions.	7	3	2	6	8	4	7	1	8	-	-
	Total Marks	7	9	8	6	24	18	7	3	38	80	120
	Marks with option	24			48			48			80	120

Figures outside the brackets indicate the Marks of each question and figures in the bracket indicate number of questions.

Name of Course: XII Mechanical Technology (IA,IB,IC)
PAPER:II OPERATION AND MAINTENANCE OF MACHINE TOOLS - II (IB)
Blue Print

Sr. No.	Unit	Knowledge			Understanding			Application			Total	Total Marks with option
		Objective	Short Answer	Long Answer	Objective	Short Answer	Long Answer	Objective	Short Answer	Long Answer		
1	Milling machine	-	3(2)	4(1)	1(5)	-	4(1)	1(1)	3(2)	4(2) 6(1)	24	40
2	Grinding machine	1(4)	-	-	1(1)	3(1)	4(1) 6(1)	-	3(2)	-	16	24
3	Modern methods of machining	1(1)	3(1)	-	1(1)	3(2)	-	1(1)	-	6(1)	12	18
4	Mechanical Preventive maintenance	1(1)	-	4(1)	1(1)	3(1)	4(1)	1(1)	-	4(2)	18	22
5	Super finishing operations	1(1)	-	-	1(1)	3(1)	6(1)	1(1)	-	4(1)	10	16
	No. of questions.	7	3	2	9	5	5	4	4	7	-	-
	Total Marks	7	9	8	9	15	24	4	12	32	-	-
	Marks with option	24			48			48			80	120

Figures outside the brackets indicate the Marks of each question and figures in the bracket indicate number of questions.

Name of Course: XII Mechanical Technology (IA,IB,IC)
PAPER:III ENGINEERING SCIENCE AND UTILITIES MACHINERY - (IC)

Blue Print

Sr. No.	Unit	Knowledge			Understanding			Application			Total	Total Marks with option
		Objective	Short Answer	Long Answer	Objective	Short Answer	Long Answer	Objective	Short Answer	Long Answer		
1	Unit systems	1(1)	-	-	1(1)	-	-	-	-	4(1)	4	6
2	Force, work, power and energy	1(1)	-	-	3(1)	3(2)	-	-	-	4(1)	10	14
3	Friction	1(1)	-	-	1(1)	3(1)	-	1(1)	-	4(1)	6	10
4	Simple lifting machine & conveyour system	1(1)	3(1)	-	-	3(1)	4(1)	1(1)	-	6(1)	12	18
5	Jigs and Fixtures	1(1)	-	-	3(1)	-	4(2)	-	-	4(1)	10	16
6	Internal Combustion engine	1(1)	-	4(1)	-	-	-	1(1)	3(2)	6(1)	12	18
7	Electric motor and transformer	1(1)	-	4(1)	1(1)	3(1)	-	1(1)	-	4(1)	10	14
8	Hydraulics	-	3(1)	-	-	-	6(1)	-	3(1)	-	8	12
9	Pneumatics	-	3(1)	-	-	-	6(1)	-	3(1)	-	8	12
	No. of questions.	7	3	2	9	5	5	4	4	7	-	-
	Total Marks	7	9	8	9	15	24	4	12	32	-	-
	Marks with option	24			48			48			80	120

Figures outside the brackets indicate the Marks of each question and figures in the bracket indicate number of questions.

Name of Course: XII Mechanical Technology (IA,IB,IC)

PAPER:I OPERATION AND MAINTENANCE OF MACHINE TOOLS - I (IA)

Time: 3.00 Hrs.

Marks-80

A) Unit wise Distribution of Marks:

Sr. No	Units	Marks	Marks with Option
1	Center lathe	10	16
2	Capston & Turret lathe machine	12	18
3	Shapping machine	12	16
4	Planning machine	10	16
5	Slotting machine	10	16
6	Errection and testing of machines	10	16
7	CNC lathe programming	16	22
	Total	80	120

B) Objective-wise Distribution of Marks:

Sr. No.	Units	Marks	Percentage	Marks with Option
1	Knowledge	16	20%	24
2	Understanding	32	40 %	48
3	Application	32	40 %	48
	Total	80	100%	120

C) Weightages to type of Questions:

Sr. No.	Units	Marks	Marks with Option
1	Objective	20	20
2	Short Answer Type (3 marks)	24	36
3	Long Answer Type (4 Marks)	24	40
4	Long Answer Type (6 Marks)	12	24
	Total	80	120

Name of Course: XII Mechanical Technology (IA,IB,IC)

PAPER:II OPERATION AND MAINTENANCE OF MACHINE TOOLS - II (IB)

Time: 3.00 Hrs.

Marks-80

A) Unit wise Distribution of Marks:

Sr. No	Units	Marks	Marks with Option
1	Milling machine	24	40
2	Grinding machine	16	24
3	Modern methods of machining	12	18
4	Mechanical Preventive maintenance	18	22
5	Super finishing operations	10	16
	Total	80	120

B) Objective-wise Distribution of Marks:

Sr. No.	Units	Marks	Percentage	Marks with option
1	Knowledge	16	20%	24
2	Understanding	32	40 %	48
3	Application	32	40 %	48
	Total	80	100%	120

C) Weightages to type of Questions:

Sr. No.	Units	Marks	Marks with Option
1	Objective	20	20
2	Short Answer Type (3 marks)	24	36
3	Long Answer Type (4 Marks)	24	40
4	Long Answer Type (6 Marks)	12	24
	Total	80	120

Name of Course: XII Mechanical Technology (IA,IB,IC)

PAPER:III ENGINEERING SCIENCE AND UTILITIES MACHINERY - (IC)

Time: 3.00 Hrs.

Marks-80

A) Unit wise Distribution of Marks:

Sr. No.	Units	Marks	Marks with Option
1	Unit systems	4	6
2	Force, work, power and energy	10	14
3	Friction	6	10
4	Simple lifting machine & conveyour system	12	18
5	Jigs and Fixtures	10	16
6	Internal Combustion engine	12	18
7	Electric motor and transformer	10	14
8	Hydraulics	8	12
9	Pneumatics	8	12
	Total	80	120

B) Objective-wise Distribution of Marks:

Sr. No.	Units	Marks	Percentage	Marks with Option
1	Knowledge	16	20%	24
2	Understanding	32	40%	48
3	Application	32	40%	48
	Total	80	100%	120

C) Weightages to type of Questions:

Sr. No.	Units	Marks	Marks with Option
1	Objective	20	20
2	Short Answer Type (3 marks)	24	36
3	Long Answer Type (4 Marks)	24	40
4	Long Answer Type (6 Marks)	12	24
	Total	80	120

Question Paper Pattern for Theory Paper

Name of Course: Mechanical Technology (IA, IB, IC)

STD:XII

Time : 3:00 Hrs

(80 Marks)

Q.No.1 (A) Select correct alternative and rewrite the sentences (5 x 1 = 5)

1.....

a)..... b)..... c)..... d).....

2.

a)..... b)..... c)..... d).....

3.

a)..... b)..... c)..... d).....

4.

a)..... b)..... c)..... d).....

5.

a)..... b)..... c)..... d).....

B) Match the following pairs. (5 x 1 = 5)

1) a)

2) b)

3) c)

4) d)

5) e)

f)

C) State the following sentences is true or false. (5 x 1 = 5)

a)

b)

c)

d)

e)

D) Answer the following in one sentence only. (5 x 1 = 5)

a)

b)

c)

d)

e)

Q.No.2. Attempt any four of the following. (4 x 3 = 12)

- a)
- b)
- c)
- d)
- e)

f)

Q.No.3. Attempt any four of the following. (4 x 3 = 12)

- a)
- b)
- c)
- d)
- e)

f)

Q.No.4. Attempt any three of the following. (3 x 4 = 12)

- a)
- b)
- c)
- d)
- e)

Q.No.5. Attempt any three of the following. (3 x 4 = 12)

- a)
- b)
- c)
- d)
- e)

Q.No.6. A) Attempt any one of the following. (6 x 1 = 6)

- a)
- b)

B) Attempt any one of the following. (6 x 1 = 6)

- a)
- b)
