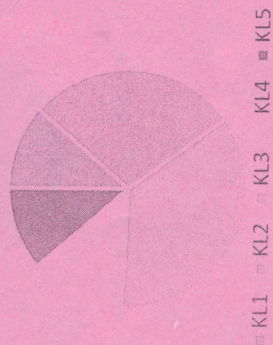


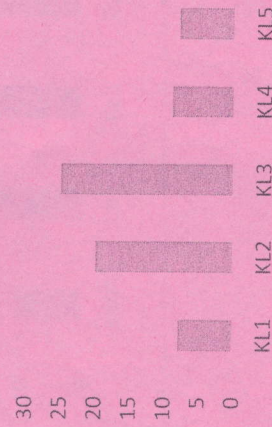
CO1	After completing the course, the students will be able to formulate and analyze a heat transfer problem involving any of the three modes of heat transfer.
CO2	The students will be able to obtain exact solutions for the temperature variation using analytical methods where possible or employ approximate methods or empirical correlations to evaluate the rate of heat transfer
CO3	The students will be able to design devices such as heat exchangers and estimate the insulation needed to reduce heat losses where necessary.
CO4	Students will be able to design heat exchangers based on the LMTD and - NTU analysis.
CO5	Student will be able to understand and design the various mass transfer operations.

GRAFICAL REPRESENTATION

Bloom's Level wise Marks Distribution



Course Outcome Wise Marks Distribution



Branch	Mechanical Engineering	Program	B. Tech
Subject Name	Heat and Mass Transfer	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Papers.</u> 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) – 20 Marks.

Q. N1	QUESTIONS	Marks	COs	KL	PO
i	Define thermal Diffusivity.	2	CO3	KL2	PO2
ii	What is Fourier's Law of heat conduction?	2	CO4	KL2	PO2
iii	State Newton's law of cooling.	2	CO4	KL1	PO1
iv	What is meant by Dimensional analysis?	2	CO5	KL2	PO3
v	What is a Heat Exchanger?	2	CO5	KL2	PO3
vi	What is LMTD?	2	CO1	KL1	PO1
vii	Define Radiation heat transfer.	2	CO1	KL2	PO1
viii	What is Stefan's Bolts Mann law?	2	CO2	KL1	PO2
ix	What is meant by mass transfer?	2	CO2	KL2	PO2
x	Give some examples of Diffusion mass transfer.	2	CO3	KL1	PO1

Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Explain the different modes of heat transfer with appropriate expressions.	5	CO3	KL2	PO7
3	What is meant lumped capacity? What are the physical assumptions necessary for a lumped capacity unsteady state analysis to apply?	5	CO3	KL2	PO2
4	Define Reynold's, Nusselt and Prandtl numbers.	5	CO4	KL3	PO2
5	Discuss the general arrangement of parallel flow, counter flow and cross flow heat exchangers.	5	CO1	KL2	PO7
6	Define emissivity, absorptivity and reflectivity	5	CO3	KL2	PO2
7	Discuss the analogy between heat and mass transfer.	5	CO2	KL4	PO2

Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

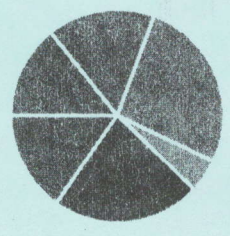
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	A spherical container of negligible thickness holding a hot fluid at 1400C and having an outer diameter of 0.4 m is insulated with three layers of each 50 mm thick insulation of $k_1 = 0.02$, $k_2 = 0.06$ and $k_3 = 0.16$ W/mK. (Starting from inside). The outside surface temperature is 300C. Determine (i) the heat loss, and (ii) Interface temperatures of insulating layers.	10	CO3	KL3	PO2
9	A long carbon steel rod of length 40 cm and diameter 10 mm ($k = 40$ w/mK) is placed in such that one of its end is 400o C and the ambient temperature is 30o C. The film coefficient is 10w/m ² K. Determine (i) Temperature at the mid length of the fin. (ii) Fin efficiency (iii) Heat transfer rate from the fin (iv) Fin effectiveness	10	CO4	KL2	PO2
10	Air at 400 K and 1 atm pressure flows at a speed of 1.5 m/s over a flat plate of 2 m long. The plate is maintained at a uniform temperature of 300 K. If the plate has a width of 0.5 m, estimate the heat transfer coefficient and the rate of heat	10	CO5	KL4	PO1

11	transfer from the air stream to the plate. Also estimate the drag force acting on the plate. Define effectiveness of a heat exchanger. Derive an expression for the effectiveness of a double pipe parallel flow heat exchanger. State the assumptions made.	10	CO2	KL4	PO1
12	Two large plates are maintained at a temperature of 900 K and 500 K respectively. Each plate has area of 6m ² . Compare the net heat exchange between the plates for the following cases. (i) Both plates are black (ii) Plates have an emissivity of 0.5	10	CO1	KL3	PO2

Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Basic principles of thought process, reasoning and differencing.	
CO2	Understand the Indian Knowledge Systems, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care systems.	
CO3	Understand the focuses on Indian philosophical traditions, Indian linguistic tradition and Indian artistic tradition.	
CO4	Evaluate the legal mechanism of traditional knowledge protection to show the difference between IPR and non-IPR system.	

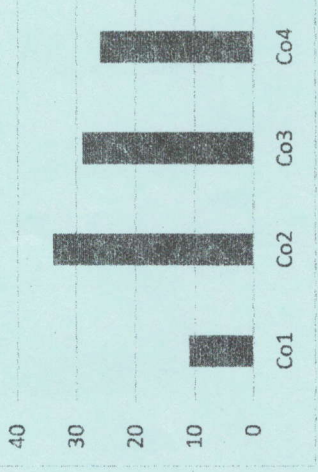
GRAFICAL REPRESENTATION


Bloom's Level Wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution



 ARKAJAIN University Jharkhand		END SEM EXAMINATION School of Engineering & IT	
Subject Name	Essence of Indian Knowledge & Tradition	Program	B.Tech
Time: 3 Hour	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers. 	Semester	V
Max. Marks : 35		Year	Odd Nov/Dec 2023
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to Q1-x) – 10 Marks		Q.N1	QUESTIONS	Marks	COs	KL	PO
i	What do you understand by Indian Knowledge & Tradition System?	1		1	Co1	K1	PO2
ii	Give two features of Indian Knowledge & Tradition System.	1		1	Co1	K1	Po3
iii	What do you mean by the term Veda?	1		1	Co2	K2	Po4
iv	Gayatri Mantra is associated with Veda.	1		1	Co2	K2	Po5
v	Name the Veda which is also known as the Veda of Melodies.	1		1	Co3	K2	Po7
vi	Yajur Veda in Sanskrit is also known as.....	1		1	Co4	K3	Po9
vii	Which Veda is known as the Veda of Magical Formulas?	1		1	Co4	K3	Po8
viii	What is Tarkshastra?	1		1	Co3	K5	Po2
ix	What do you mean by Indigenous Community?	1		1	Co4	K5	Po1
x	What is Shiksha?	1		1	Co1	K3	Po2

Section B (Answer any FIVE out of SIX) - 10 Marks

(Each question 2 Marks)

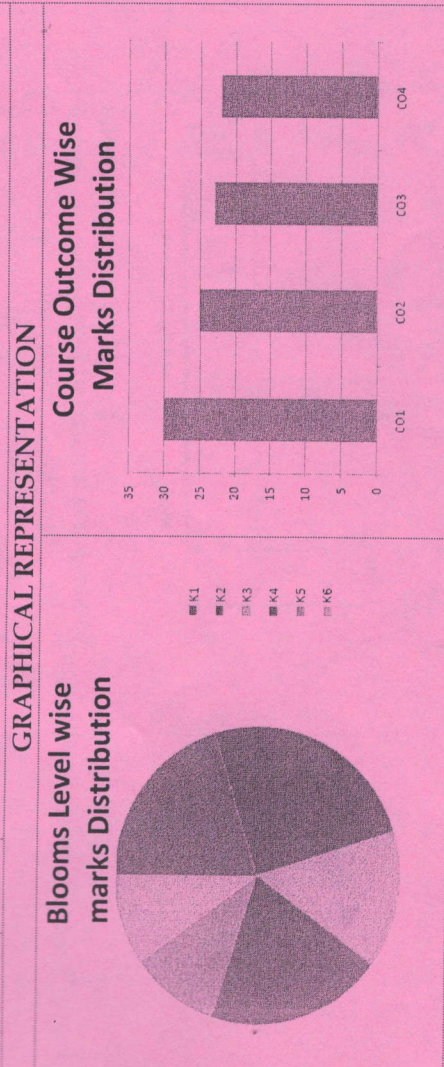
Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Name the six Vedangas.	2	Co1	K3	Po2
3	Why is it necessary to protect Indian Knowledge System?	2	Co3	K4	Po3
4	Name all the Upvedas.	2	Co2	K3	Po5
5	Write the 4 major components of Rig Veda.	2	Co4	K5	Po4
6	What are the teachings of Sama Veda?	2	Co4	K5	Po5
7	What is the Objective of Ayurveda?	2	Co2	K6	Po6

Section C (Answer any THREE out of FIVE) - 15 Marks-

(Each question Carry 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	What are the special features and topics included in Atharveda?	5	Co3	K1	Po1
9	Give the list of Vedas and Upvedas associated with them.	5	Co2	K2	Po2
10	Name and explain the 8 major components of Ayurveda.	5	Co2	K5	Po3
11	Explain all the Vedas.	5	Co4	K6	Po7
12	Explain all the Upvedas.	5	Co3	K3	Po8

Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Understanding the concept and principles of Hook's law of elasticity and other mechanical properties.	
CO2	Define and calculate stress and strain induced due to simple and combined loading.	
CO3	Analysing various situations in practical applications such as bending, shear and torsion.	
CO4	Calculate deflection and slope for different loading condition of beams.	



END SEM EXAMINATION
School of Engineering & IT

Branch	Mechanical Engineering	Program	B. Tech
Subject Name	Solid Mechanics	Semester	V
		Year	Odd Nov/Dec 2023

- Start writing from 2nd page onwards; don't write on the 1st Page Backside
 - Answer all Questions of Section A (Compulsory)
 - Answer Any Four out of Six of Section B
 - Answer Any Three out of Five of Section C
 - Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers.
- Time: 3 Hour
Max. Marks : 70

Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

Q.N	QUESTIONS	Marks	COs	KL	PO
1					
i	What is shear modulus?	2	CO1	K1	PO2
ii	What is thermal Stress?	2	Co1	K1	PO2
iii	Show and explain two dimensional stress system acting on a component.	2	Co2	K4	PO3
iv	Write equation for Normal and tangential stress on an inclined plane due to two dimensional stress system accompanied by a shear stress.	2	Co3	K2	PO3
v	Write sign convention for Bending Moment and Shear Force Diagram.	2	Co2	K4	PO4
vi	At which point, maximum bending moment occurs in simply supported beam?	2	Co3	K5	PO4
vii	What is neutral axis?	2	Co2	K2	PO3
viii	Define the term ' Section Modulus'.	2	Co3	K3	PO4
ix	What type of stress induced in a rotating shaft?	2	Co4	K4	PO3
x	What is the formula for polar moment of inertia for hollow shaft?	2	Co4	K4	PO3

Section B (Answer any FOUR out of SIX) – 20 Marks

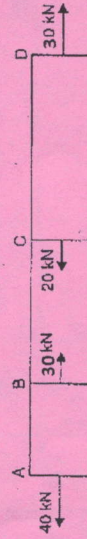
(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Draw stress-strain curve for MS and show and explain salient points on it.	5	Co1	K2	PO3
3	Derive equation for thermal stress for a rod which is fixed at both ends.	5	Co1	K3	PO2
4	A component is subjected to two mutual perpendicular stresses of 120 N/mm^2 and 70 N/mm^2 . Determine the normal, tangential and resultant stresses on a plane inclined at 30° to the axis of minor stress.	5	Co2	K4	PO3
5	Draw shear force and bending moment diagram for a cantilever beam of length 5 m subjected to UDL of 3 kN over entire span.	5	Co2	K4	PO4
6	A rectangular beam 60 mm wide and 300 mm deep is simply supported over a span of 4 m . If the beam is subjected to central point load of 12 kN , find the maximum bending stress induced in the beam section.	5	Co3	K4	PO3
7	A simply supported square beam (cross section $50 \text{ mm} \times 50 \text{ mm}$) of length 4 m carries point load of 50 kN at centre. Find maximum deflection. Take $E = 200 \text{ GPa}$.	5	Co4	K5	PO4

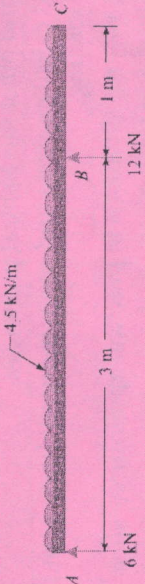
Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

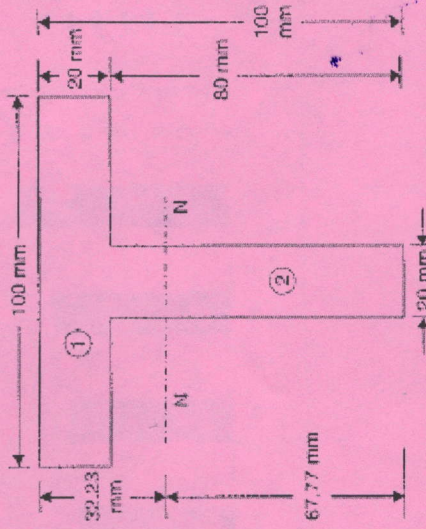
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Determine the net change in the length of the member shown in figure. Cross section of bar is 900 mm^2 , Length $AB = 0.6 \text{ m}$, $BC = 0.8 \text{ m}$ and $CD = 1 \text{ m}$. Take $E = 100 \text{ GPa}$.	10	Co2	K5	PO3
9	Direct stresses of 160 N/mm^2 tensile and 120 N/mm^2 Compressive exist on two perpendicular planes accompanied by shear stress of 80 N/mm^2 . Determine the normal, shear and resultant stresses on an oblique plane inclined at an angle of 30° with the axis of minor stress. Also find Major and minor principle stress along with maximum shear stress for this loading condition.	10	Co1	K2	PO4



Draw shear force and bending moment diagram for beam shown in figure.



A cast iron beam is of T-section as shown in figure. The beam is simply supported on a span of 8 m . The beam carries a uniformly distributed load of 1.5 kN/m on the entire length. Determine the maximum tensile and maximum compressive stresses.



What is the need of finding Slope and deflection of Beams? Derive equation for maximum deflection and slope of cantilever beam loaded with UDL load $w \text{ N/m}$ over entire length 'L'. (Assume suitable value for the unknown quantity if needed).

10 Co3 K3

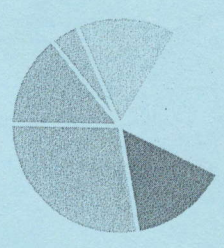
10 Co4 K5 PO4

10 Co4 K1 PO5

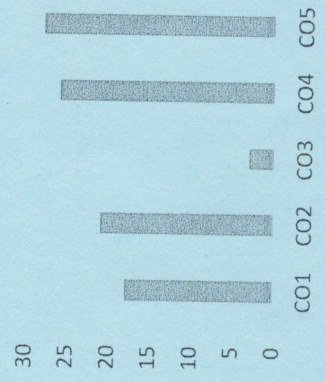
Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Analyze the various modes of failure of machine components under different load patterns.	
CO2	Design and prepare part and assembly drawings.	
CO3	Use design data books and different codes of design.	
CO4	Select standard components with their specifications from manufacturer's catalogue.	
CO5	Develop drawings on CAD software.	

GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution



Course Outcome Wise Marks Distribution



END SEM EXAMINATION
School of Engineering & IT

Branch	Mechanical Engineering	Program	B.Tech
Subject Name	Design of Machine Element	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; <u>don't Write on the 1st Page</u> Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material</u> <u>Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u> 		
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) – 20 Marks

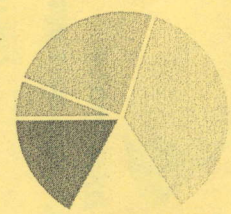
Q. N	QUESTIONS	Marks	COs	KL	PO
i	What is machine design?	2	CO1	K1	PO2
ii	What are steps involved in machine design.	2	CO1	K1	PO1
iii	Name the possible mode of failure of riveting joints	2	CO2	K2	PO3
iv	What is the importance of tolerance in machine design?	2	CO1	K5	PO2
v	Describe the common materials used in mechanical engineering design.	2	CO3	K6	PO4
vi	Difference between design analysis and design synthesis?	2	CO4	K4	PO5
vii	What is the common type of bearings used in machine design?	2	CO1	K1	PO1
viii	What is the purpose of bearing pre-load in machine design?	2	CO2	K2	PO3
ix	Difference between rack and pinion.	2	CO1	K5	PO2

x	Properties of material used for lining of friction surface of clutch.	2	CO3	K6	PO4
Section B (Answer any FOUR out of SIX) - 20 Marks (Each question 5 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
2	What is the main consideration in designing of a friction clutch?	5	CO1	K1	PO1
3	Name of the assumptions are made while designing a joint of Boiler.	5	CO1	K5	PO2
4	What do you understand by torsional rigidity and lateral rigidity of shaft?	5	CO4	K4	PO5
5	Find out the efficiency of square thread screw.	5	CO1	K1	PO1
6	Torque required to raise the load by square thread screw. (elaborate)	5	CO1	K5	PO2
7	Explain properties of sliding bearing materials.	5	CO4	K4	PO5
Section C (Answer any THREE out of FIVE) - 30 Marks (Each question Carry 10 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	A single riveted lap joint is to be made of 9 mm thick plate. Find the diameter of rivets, pitch and efficiency of the joints. T_{ou} (shear) = 64 N/mm ² , σ (tensile) = 80 N/mm ² . And design the joint so that its strength to withstand shear of rivets equal its strength to withstand tearing of the plate across the line of rivet holes.	10	CO1	K1	PO1
9	A single plate clutch, effective on both sides, is required to transmit 25 KW at 3000 rpm. Determine the outer, inner diameter of frictional surface, if the co-efficient of friction is 0.255, ratio of diameter is 1.25 and maximum pressure is not to exceed 0.1 N/mm ² . Also determine the axial thrust to be provided by springs. Assume the theory of uniform wear.	10	CO1	K5	PO2
10	Design the rectangular key for a shaft of 50 mm diameter. The shearing and crushing stresses for the key material are 42 MPa and 70 MPa. Respectively.	10	CO4	K4	PO5
11	Explain causes of gear tooth failure, suggest to prevent it.	10	CO2	K2	PO3
12	Explain steps and Procedure used in designing Design of Screw Jack with diagram	10	CO4	K1	PO1

Course Outcomes,	KL- Knowledge Level,	PO - Program Outcome
CO1	To understand the different conventional and unconventional manufacturing methods employed for making different products.	
CO2	An overview of the mechanical behaviour and application of tools used in machining purpose.	
CO3	To examine the different Techniques involved in traditional machining process.	
CO4	To understand the manufacturing process of complex shape products.	
CO5	To analyse the basic components of Lathe machine, Milling Machine, Drilling machine, Grinding Machine and different tools.	

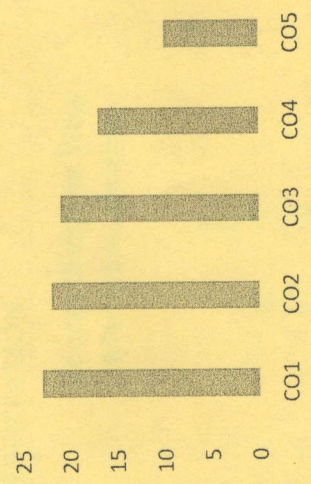
GRAFICAL REPRESENTATION


Bloom's Level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution





ARKAJAIN University
Jharkhand

END SEM EXAMINATION
School of Engineering & IT

Branch	Mechanical Engineering	Program	B. Tech
Subject Name	Manufacturing Process -I	Semester	V
		Year	Odd Nov/Dec 2023

• Start writing from 2nd page onwards; don't Write on the 1st Page Backside
 • Answer all Questions of Section A (Compulsory)
 • Answer Any Four out of Six of Section B
 • Answer Any Three out of Five of Section C
 • Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers.

Time: 3 Hour
Max. Marks : 70

Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) - 20 Marks

Q. N I	QUESTIONS	Marks	COs	KL	PO
i	What is metal casting process?	2	CO1	K1	PO1
ii	What are the function of riser?	2	CO4	K2	PO2
iii	Write a note on cutting tool materials.	2	CO1	K3	PO1
iv	Enlist the factors on which Solidification time in casting depends?	2	CO2	K1	PO4
v	Enlist any four machine tools and respective cutting tools used.	2	CO3	K1	PO1
vi	Differentiate between hot forming & cold forming.	2	CO3	K3	PO1
vii	What do you understand by straight polarity and reverse polarity in welding?	2	CO3	K4	PO4
viii	Write a note on production of ultrasonic vibration in USM process.	2	CO1	K5	PO3
ix	Write advantages of non-traditional machining processes.	2	CO1	K3	PO1
x	Suggest the NTM process suitable for making a rectangular hole on hard work piece and also explain why?	2	CO4	K2	PO4

Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Explain any three types of patterns used in sand casting.	5	CO4	K2	PO1
3	Which riser is best: side riser or top riser? Give reasons.	5	CO2	K2	PO4
4	Explain different types of chip formed during machining.	5	CO3	K3	PO1
5	Explain the process of arc welding with suitable diagram.	5	CO2	K5	PO1
6	What is shear angle? Find shear angle during orthogonal machining of a component with uncut chip thickness as 1.45 mm and corresponding chip thickness of 2.05 mm with a tool of rake angle 12° .	5	CO2	K4	PO4
7	What do you understand by additive manufacturing? Enlist its applications, advantages and limitations	5	CO1	K3	PO3

Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Explain the process of sand mould making with split pattern. Show different steps with suitable sketches.	10	CO4	K2	PO4
9	In an orthogonal cutting with tool rake angle 10° and chip thickness ratio 0.37, Thrust force and main cutting force were found as 1000N and 1500N respectively. Calculate the other components of cutting forces and the coefficient of friction at the chip tool interface.	10	CO1	K3	PO1
10	What do you understand by gas welding? What are the source of energy in gas welding? Explain different types of flames in oxy-acetylene gas welding.	10	CO3	K5	PO1
11	Explain working principle, components, applications, advantages and limitations of Ultrasonic Machining.	10	CO2	K4	PO2
12	Write tool nomenclature in ASA system with the help of different views of single point cutting tool.	10	CO5	K3	PO3

Branch	Mechanical/Electrical Engineering	Program	B.Tech
Subject Name	Professional Practice Law & ethics	Semester	V
		Year	Odd Nov/Dec 2023

• Start writing from 2nd page onwards; don't Write on the 1st Page Backside
 • Answer all Questions of Section A (Compulsory)
 • Answer Any Four out of Six of Section B
 • Answer Any Three out of Five of Section C
 • Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers.

Time: 3 Hour
 Max. Marks : 70

Knowledge Level (KL)
 K1 : Remembering K3 : Applying K5 : Evaluating
 K2 : Understanding K4 : Analysing K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) - 20 Marks

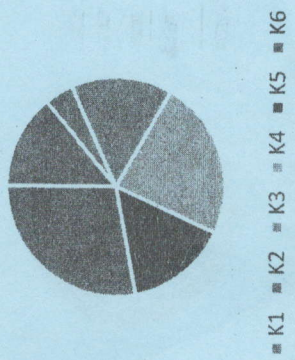
Q.N1	QUESTIONS	Marks	COs	KL	PO
i	Define the term ethics.	2	CO1	K2	PO8
ii	Differentiate between Environmental violation & environmental threat.	2	CO1	K1	PO8
iii	What does institution of engineers do?	2	CO1	K1	PO8
iv	What is work place negligence?	2	CO3	K2	PO7
v	Discuss the various forms of Industrial disputes and its cause.	2	CO4	K2	PO8
vi	Explain the term e-contract.	2	CO5	K2	PO11
vii	Explain the term Trade mark.	2	CO5	K2	PO11
viii	What do you mean by Ad-hoc arbitration?	2	CO3	K2	PO10
ix	Explain Void and voidable contract.	2	CO2	K2	PO9
x	What is Bribe?	2	CO2	K2	PO7

CO - Course Outcomes, KL - Knowledge Level, PO - Program Outcome

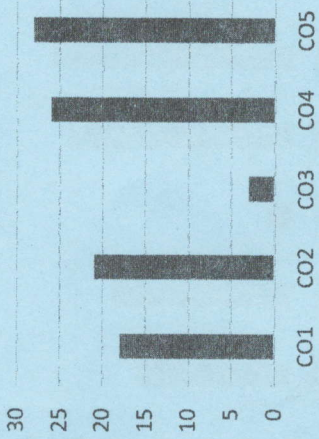
CO1	Understand the constitutes professional practice, introduction of various stakeholders and their respective roles; Understand the fundamental ethics governing the profession.
CO2	Understand a good insight into contracts and contracts management in Mechanical engineering, dispute resolution mechanisms, laws governing engagement of labour.
CO3	Understand of Intellectual Property Rights, Patents.
CO4	Understand the types of roles they are expected to play in the society as practitioners of the mechanical engineering profession.
CO5	Develop good ideas of the legal and practical aspects of their profession.

GRAFICAL REPRESENTATION

Bloom's Level wise Marks Distribution



Course Outcome Wise Marks Distribution



Section B (Answer any FOUR out of SIX) – 20 Marks**(Each question 5 Marks)**

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Who is a whistle blower?	5	CO2	K2	PO7
3	Differentiate between gift & bribery.	5	CO4	K1	PO8
4	Discuss the criteria of Bid evaluation with its example.	5	CO2	K3	PO9
5	What is Quasi Contract?	5	CO1	K4	PO8
6	When does an arbitral proceeding commence?	5	CO3	K4	PO10
7	Explain the copyright infringement and its remedies.	5	CO5	K2	PO11

Section C (Answer any THREE out of FIVE) – 30 Marks-**(Each question Carry 10 Marks)**

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	What are the tenants of code of conduct as described by the Institute of Engineers.	10	CO1	K5	PO8
9	Write a brief note on Prohibited Labour Law.	10	CO4	K4	PO8
10	Explain the process of obtaining patent and its duration.	10	CO5	K4	PO11
11	According to Indian contract act, the contract made without the consideration is void. Discuss.	10	CO2	K2	PO9
12	What are the non-patentable subject matter?	10	CO3	K4	PO10