Bharatiya Vidya Bhavan's

SARDAR PATEL COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)

Munshi Nagar, Andheri (W) Mumbai – 400058

S.Y. BTech (Mech - Sem-III)

ENDSEM- REEXAMINATION APRIL2023

Program: MECHANICAL **Duration: 03 Hours**

Course Code: BS-BTM301 **Maximum Points: 100**

Course Name: Laplace fourier complex linear algebra **Semester:** III

- **Attempt any five out of seven questions**
- **Use of scientific calculator is allowed.**

21/4/23

QNO.	QUESTION	POINTS	CO	BL	PI
Q1 a)	Obtain Laplace transforms of $\left\{\sinh\left(\frac{t}{2}\right)\sin\left(\frac{\sqrt{3}t}{2}\right)\right\}$	06	1	2	2.1.3
Q1 b)	Find the bilinear transformation which maps the points z = 1, i , -1 into the points $w = i, 0, -i$.	06	3	3,5	1.1.1
Q1 c)	Find for what values of k the set of equations $2x-3y+6z-5t=3$, $y-4z+t=1$, $4x-5y+8z-9t=k$ has (i) no solution (ii) infinite number of solutions.	08	4	1	1.1.2
Q2 a)	Test for consistency and solve $x-2y+3t=2$ $2x+y+z+t=-4$ $4x-3y+z+7t=8$	06	4	2	2.1.4
Q2 b)	Prove that $\int_0^\infty \frac{\sin 2t+\sin 3t}{te^t}dt=\frac{3\pi}{4}$ using Laplace transforms	06	1	2	2.3.1
Q2 c)	Obtain the Fourier Series for $f(x)=\lvert\sin x\rvert \quad -\pi\le x\le\pi$	08	2		2.1.4
Q3 a)	Obtain the Fourier Series for $f(x)=x\sin x$ in $(0,2\pi)$	06	2	2	1.1.2
Q3 b)	Show that the function $e^x(\cos y+i\sin y)$ is an analytic function, find its derivative.	06	3	2	1.1.1
Q3	Solve $\frac{dy}{dt}+2y+\int_0^t y\,dt=\sin t$	08	1	4,5	2.1.4

ENDSEM- REEXAMINATION APRIL2023

c)	Given $y(0)=1$				
Q4 a)	If $u-v=(x-y)(x^2+4xy+y^2)$ and $f(z)=u+iv$ is an analytic function of $z=x+iy$, find f (z) in terms of z.	06	3	3	2.3.1
Q4 b)	Using convolution theorem to Prove that: $\mathcal{L}^{-1}\left\{\frac{1}{(s^2+a^2)^2}\right\}=\frac{1}{2a^3}(\sin at - at\cos at)$	06	1	2	1.1.3
Q4 c)	If $f(x)=x \quad 0\le x\le 2$ Find half range cosine series using Parseval's identity deduce $\frac{\pi^4}{96}=\frac{1}{1^4}+\frac{1}{3^4}+\frac{1}{5^4}+------$	08	2	3	2.3.4
Q5 a)	Obtain the Fourier series for $f(x)=\begin{cases}1+\frac{2x}{\pi} & -\pi<x<0\\ 1-\frac{2x}{\pi} & 0<x<\pi\end{cases}$	06	2	2	2.3.1
Q5 b)	Evaluate $L^{-1}\left\{\frac{5S^2+8S-1}{(S+3)(S^2+1)}\right\}$	06	1	2	1.1.1
Q5 c)	Find the characteristic equation of the symmetric matrix $A=\begin{bmatrix}2 & -1 & 1\\ -1 & 2 & -1\\ 1 & -1 & 2\end{bmatrix}$ and verify that it is satisfied by A and hence obtain A^{-1}. Express $A^6-6A^5+9A^4-2A^3-12A^2+23A-9I$ in linear polynomial in A.	08	4	2	2.3.4
Q6 a)	Obtain the Fourier Series for $f(x)=\begin{cases}0 & -2\le x\le -1\\ 1+x & -1\le x\le 0\\ 1-x & 0\le x\le 1\\ 0 & 1\le x\le 2\end{cases}$	06	2	4	1.1.3
Q6 b)	Find non – singular matrices P and Q such that P E Q is in	06	4	3	2.1.3

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ENDSEM- REEXAMINATION APRIL2023

Q6 b)	Find non – singular matrices P and Q such that P E Q is in normal form $E=\begin{bmatrix}2&1&1&3\\1&0&1&2\\3&1&2&5\end{bmatrix}$ Hence find rank of E.	06	4	3	2.1.3
Q6 c)	Evaluate: $L^{-1}\left\{\frac{s^2+2s+3}{(s^2+2s+2)(s^2+2s+5)}\right\}$	08	1	3	1.1.1
Q7 a)	Obtain Laplace transforms of $f(t)=\sin^5 t$	06	1	3	2.1.4
Q7 b)	Verify that the equation $w=\frac{1+iz}{1+z}$ maps the exterior of the circle $\lvert z\rvert=1$ into the upper half plane $v>0$.	06	3	2	1.1.3
Q7 c)	Find the eigen values and eigenvectors of the matrix $A=\begin{bmatrix}1&0&-1\\1&2&1\\2&2&3\end{bmatrix}$	08	4	3,5	2.1.3

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RE-Exam_END-SEM-EXAMINATIONS APRIL 2023

Program	**:BTech Mechanical engg**	**Duration**	**:3 hr**
Course Code	**:PC-BTM302**	**Maximum Points**	**:100**
Course Name	**:Strength of Materials.**		
Semester	**:III**		

Instruction : Refer below

S.Y. BTech (Mech - Sem - III) 24/4/23

1. Question No. 1 is compulsory
2. Solve any four out of remaining six.
3. Answers to each sub-questions are grouped together
4. Use of scientific calculator is allowed
5. Begin answer to each question on new page.
6. Keep some margin on left side of answer paper
7. **Candidates should write the answer legibly**

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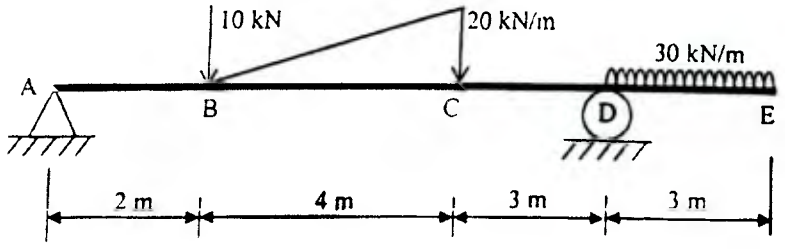
Q. no.	Description	Pts	CO	BL
1	a) A solid square bar of size 25x25 mm and 500 mm long is joined to a hollow tube of 20 mm inside diameter, 300 mm long to make a total length of 800 mm. The assembly is subjected to an axial load of 80 kN. Determine the external diameter of the tube so that the stress in both the segments is the same. Calculate value of the stress.	4	1,2,3,4	3,4
	b) A steel bar of 100 mm diameter is clamped at the ends. A hole of 40 mm diameter is driven for one-third of its length 'L'. If temperature of this bar is raised by 50°C above that of clamps, determine the maximum stress in the bar. Consider E = 200 GPa, α = 12 x 10-6 mm/mm/°C	6		
	c) Define following terms: (i) Elastic limit, (ii) Modulus of rigidity, (iii) Bulk modulus, (iv) Volumetric strain, (v) 0.2% offset proof stress, (vi) Ultimate tensile strength.	6		
	d) State assumptions made during development of classical bending equation.	4		
2	A simply supported beam AB of span 7 meters length is carrying two point load of 45 kN and 25kN at a distance 1.0 m and 5.0 m from the left-hand end. Calculate the slopes at A and B and deflection under the loads. Take E= 210 GPa and I = 180 x10^6 mm^4.	20	1,2	3,4
3	a) A 200mm wide, 300mm deep and 6 meter long simply supported beam carries a point load of 20 kN at the right end and a UDL of 20 kN/m on the whole span. The two supports are 4 meter apart, the left-hand support being at the left end. Find the maximum bending stress induced and also	10	1,2	3,4

	calculate the radius of curvature of neutral axis at this section. Consider E = $2x10^5$ N/mm^2 b) A hollow circular shaft, 300 mm external diameter, thickness of metal 25 mm, is transmitting power at 960 rpm. The angle of twist on a length of 4.5 meters was found to be 0.15°. Calculate the power transmitted and the maximum shear stress induced in the section. Take G = 0.8 x 10^5 N/mm^2 .	10		
4	At a point in a material subjected to two dimensional stresses, one of the principal stresses is 70 MPa, tensile. On a plane at 50° to this principal plane, the normal stress is 10 MPa, tensile. Determine the other principal stress and planes on which the normal and shear stresses are equal in both magnitude and sign. (***Use Mohr's Circle concept***)	20	1,2 ,3	3,4
5	Draw the shear force and bending moment diagram for the beam ABCDE shown in the figure. 	20	1,2	3,4
6	a) A cylindrical shell, 950 mm in diameter, thickness of metal 12 mm and 4.5 m long, is subjected to internal pressure of 1.8 MPa. Calculate the change in diameter, length and volume of shell under pressure. Use thin cylinder theory. E = 210 GPa, Poisson's ratio = 0.32. b) A cast iron water pipe of 350 mm inside diameter and 14 mm thick is supported over a span of 6 meters. Find the maximum stress in the pipe metal, when the pipe is running full. Take density of cast iron as 70.0 kN/m^3 and that of water as 9.8 kN/m^3	10 10	1,2	3,4
7	An I-section 300 mm x 100 mm having flange thickness 12 mm and web thickness of 6 mm is part of a simply supported beam structure. At certain location it is subjected to shear force of 250 kN acting perpendicular to the flange surface. Determine the maximum and minimum shear stress in the web at this location. Also calculate the percentage of vertical shear carried by the web and the flange of the beam.	20	1,2 ,3	3,4

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RE-EXAMINATION, April-2023

Program: **B. Tech. in Mechanical Engineering** Date: **April-2023**
Class: **Second Year B. Tech. (Mechanical)** Duration: **3 Hr.**
Course code: **PCC-BTM305** Max. Points: **100**
Name of the Course: **Thermodynamics** Semester: **III**

Instructions: S.Y. BTech (Mech) Sem - III

- Solve **ANY FIVE** questions.
- Assume suitable data wherever necessary and state the same.
- **Draw neat system diagram and/or process diagram wherever necessary.**
- Use of **Steam Tables and Mollier Diagram** provided by Exam Section is permitted.
- Write brief and specific answers to theory questionsin legible hand writing.

Q. No.	Question	Points	CO	BL	PI	Module
Q.1	**a) Explain**: i) Quasi-static process. ii) Thermodynamic Equilibrium Why practical processes in engineering applications are non-quasi-static?	**(10)**	1	II	1.4.1	1
	c) A piston-cylinder device operates with *1 kg* of fluid at *20 bar*. The initial volume is *0.04 m^3*. The fluid is allowed to expand following a process of $pV^{1.45}=C$ so that the volume becomes double. The fluid is then cooled at constant pressure so that until the piston comes back to the original position. Keeping the piston unaltered, heat is added reversibly to restore it to original pressure. **Determine:** The work done in the cycle. **Draw:** p-V diagram.	**(10)**	1	I, V	1.4.1	1
Q.2	**a) Explain:** Types of thermodynamic properties with examples. **Prove:** i) Energy is a thermodynamic property of the system. ii) Energy of an isolated system is constant.	**(10)**	1,2	II, III	1.4.1	1,2
	b) A stationary fluid system undergoes a cycle comprising of following processes: i) Process 1-2: Isochoric heat addition of *235 kJ/kg* ii) Process 2-3: Adiabatic expansion to its original pressure with loss of 70 kJ / kg in internal energy iii) Process 3-1: Isobaric heat rejection to its original volume with heat rejection of 200 kJ/kg. **Evaluate:** i) Work transfer and ii) Heat Transfer in each process. Draw: Process (p-V) diagram.	**(10)**	1,2	V	1.4.1	1,2
Q.3	**a) State:** Expression for General form of Steady Flow Energy Equation (SFEE) for a flow system undergoing a process. Using this equation, **Derive:** Ideal steady flow energy equation for i) a	**(10)**	2	I, III	1.4.1	2

	Compressor and ii) a Diffusor. **State**: Assumptions made in derivation. **b)** Air flows steadily at the rate of *0.5 kg/s* through an air compressor, entering at *7 m/s* velocity, *100 kPa* pressure and *0.95 m^3/ kg* volume and leaving at *5 m/s, 700 kPa* and *0.19 m^3/kg*. The internal energy of the air leaving is *90 kJ/kg* greater than that of entering. Cooling water in the compressor jacket absorbs heat from the air at the rate of 58 kW. **Evaluate:** i) Power input required by compressor in kW ii) Ratio of inlet pipe diameter to outlet pipe diameter. **Draw:** System diagram.	**(10)**	2	I, V	1.4.1	2,5
Q.4	**a) Explain**: Kelvin-Planck and Clausius statements of Second Law of thermodynamics. **Draw:** Neat schematic diagrams. **b) Explain:** Sensible and latent heat transfer. 1 kg of ice at -5 °C is heated at constant atmospheric pressure to form superheated steam at 250°C. **List:** Stages of sensible and latent heat transfer involved and **Evaluate:** Change in entropy in each stage. Take following reference data: i) c_p of ice = 2.093 kJ/kg. K ii) Latent heat of fusion of ice = 334.96 kJ/kg iii) c_p of water = 4.1867 kJ/kg.K iv) Latent heat of vaporisation of water = 2257 kJ/kg v) cp of steam = 2.093 kJ/kg.K .	**(10)** **(10))**	2 1, 2,3	I, II, I, II,	1.4.1 1.4.1	3 1,4,5
Q.5	**a) Explain:** Working of Ideal Rankine heat cycle for a steam power plant **Draw:** System diagram and T-s diagrams for the cycle. **Derive:** Expression for thermal efficiency of an ideal Rankine cycle. **b)** Steam at *20 bar* and *360°C* is expanded in steam turbine to *0.08 bar*. It then enters into a condenser where it is condensed to saturated liquid. The pump feeds back the water to boiler. **Evaluate:** Thermal efficiency of cycle. Assume the ideal Rankine cycle. **Draw:** System diagram and T-s diagram for the cycle.	**(10)** **(10)**	3 3	I, II, V I, V	1.4.1 1.4.1	5 5
Q.6	**a) Explain:** Working of an Otto cycle and Diesel cycle for an I.C. Engine. **Draw:** p-V and T-s diagrams for each cycle. **b) Explain: i)** Indicated power ii) Brake power iii) Mechanical Efficiency of an I.C. Engine. An indicator diagram of a single cylinder, single acting four-stroke diesel engine has a length of *0.1 m* and area of *2.045 x 10^{-3} m^2*. The spring constant for the indicator cylinder spring is *20000 kPa/m*. The bore and the stroke of the engine cylinder both are *100 mm* and the engine speed is *900 rpm*. The brakimg torque required for the engine is *19.2 m.N*. **Calculate:** i) Indicated power and ii) Mechanical efficiency of the engine.	**(10)** **(10)**	3 3	I, II, II, V	1.4.1 1.4.1	6 1,6
Q.7	Attempt any **THREE** of the following: **a) Explain:** i) Enthalpy of formation ii) Adiabatic flame temperature. **b) Explain:** Thermodynamic work and its types **c) Explain:** Joule's experiment with neat sketch. **d) Derive:** General form of steady flow energy equation for a control volume **e) Explain:** Reheat Cycle	**(20)**	 4 3 3 2 3	II	1.4.1 ——	 7 1 1 2 5

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END SEMESTER RE-EXAMINATION APRIL 2023

26/4/23

Program: Mechanical Engineering

Course Code: PCC-BTM306

Course Name: **Manufacturing Science**

Duration: 03 hour

Maximum Points: 100 marks

Semester: III

S.Y. B Tech (Mech - Sem- III).

Notes: 1.Questions number 01 is compulsory.

2. Solve any four questions out of remaining four main questions.
2. Draw neat schematic diagrams wherever is necessary, **highlight** important points.
3. Assume suitable data if necessary and mention it.

Q. No.	Questions	Pts	CO	BL
Q 1A	Write a short note on superabrasive grinding wheels with the technical alpha numeric specification of grinding wheels? Give a detailed explanation about each code.	10	4	1, 3
Q 1B	Explain different systems of turret lathe machine tool with the help of neat schematic sketch. Also give its specific application (in terms of product geometry only). Give relative advantages of turret lathe with conventional lathe machine tool?	10	4	1
Q 2A	Explain in specific operational applications about external centerless grinding machine tool along with its neat schematic sketch? [5M] Give composition features of grinding wheel and give significance of friability?	10	4	2, 3
Q 2B	Estimate *best welding speed* to be used for welding of 6 mm thick mild steel plates with an ambient temperature of 25° C with welding transformer set at 30 V and current passing is 250 A. Arc efficiency is 0.9 and possible travel speeds are 5 to 10 mm/s. limiting cooling rate for satisfactory performance is 6°C/s at a temperature of 850° C. Data- k= 0.028 J/mm.s.°C, R= 7°C/s, T_o = 25°C, T_c = 850° C, V= 30 V, I = 250 A, ρ*c = 0.0035 J/mm^3°C.	10	3	3
Q 3 A	With the help of neat *sketch [2.5M]* explain Submerged arc welding process [2.5M]? Explain material removal *mechanism* [2M] and *characteristics* [3M] of "ultrasonic machining process" process?	10	3	1
Q 3B	Calculate machining *time* required for (single finishing pass) face milling of top face copper block having length of 300 mm, width 150 mm and height of 50 mm? Helical fluted plain HSS milling cutter of diameter 60 mm, length 75 mm and have 6 teeth used for face milling of top surface. Approach distance and over run distance are 5 mm each for tools, cutting velocity 25 m/min and feed is 0.25 mm/tooth, depth of cut 0.75 mm?	10	1, 4	1

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END SEMESTER RE-EXAMINATION APRIL 2023

Q 4A	Draw neat sketch of two helical fluted parallel shank drill tool? Give significance of rib, flute helix angle of drill tool? Give three important *differences* between Multi-spindle and Gang drilling machine?	10	4	1
Q 4B	For manufacturing spur gear having 237 numbers teeth's, suggest a *work holding device* having indexing mechanism, calculate the characteristics of accessories required if reduction ratio up to 40:1 available [5M]? Draw neat schematic sketch of universal milling machine tool and also draw product geometry which can be machined and shaped exclusively by this machine tool only?	10	1, 4	1, 3
Q 5A	Enlist important (only five important) points to be consider for design of Supporting elements? [5M] Sketch the following and give their specific one application: Pot Jig? [5M]	10	2	1
Q 5B	i) A manufacturing industry wants to manufacture 6 meters length of 10 inch X 10 inch cross section steel material. Suggest a manufacturing process [1M] and explain the basic steps involved [2M] with the help of well labelled schematic sketch [3M]? ii) Match the following [4M] 1. Dry sand core — A. Moisture 2. Collapsibility of core — B. High strength 3. Core print — C. Hot tears 4. Green sand core — D. Seat to position the core [4M]	10	3	2
Q 6A	Draw well labelled *Sketch* of vacuum forming process setup for plastic molding and give examples of its application products? A steel slab of dimension 30 × 20 × 5 cm is produced using casting with the help of mould using a side riser. The riser is cylindrical in shape with diameter and height, both equal to D. The freezing ratio of the mould is (show the calculation) **a.** 4D/75 **b.** 8D/75 **c.** 75/8D **d.** 75/4D [6M]	10	3	1
Q 6B	Draw block diagram of CNC machine tool control system. Explain its working and components? Give advantages of CNC machine center over NC machine center?	10	3	2
Q 7A	Draw neat schematic of radial drilling machine tool? Using simple block diagram give number of degrees of freedom offered by different types of radial drilling machine tool?	10	4	3
Q 7B	Enlist the design and manufacturing requirement's while selecting locating elements? What are different type of jig bushes? Draw sketch of all types of jig bushes?	10	1, 2	3

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Re Examination

April 2023

28/4/23

Max. Marks: 100 Duration: 3 Hours

Class: S.Y. Mech /Electrical **Semester: III** Program: B.Tech

Course Code : HSM BTM 307/ BTE 301

Organizational Communication and Interpersonal Skills

Note: D.Y S.Y. BTech (Mech, Elec) Sem- III)

- **Q.1. is Compulsory**
- **Out of remaining 6 questions attempt any 4**
- **Each question carries 20 marks**
- **Start every question from fresh page**

Questions	Answer the following questions:	Grade points	CO	BL	PI
Q.1.	Attempt any four questions out of six. Each question carries five marks: **A.** Write ten effective dining etiquettes **B.** Define Netiquette. Explain the etiquettes to be followed while using Internet. **C.** Explain the difference between a team and a group. **D.** Discuss the pros and cons of Autocratic and Democratic types of leadership with one example each. **E.** Distinguish between an Abstract and Summary **F.** How is a group discussion evaluated? What criteria is kept in mind for evaluating a GD?	**20**	**01,04**	**04**	**10.1.3**
Q.2	Your college is planning to form a few technical and non- technical clubs for students. The Student Welfare Committee Chairperson has assigned you the responsibility to discuss with your faculty, Industry personals, Alumni, classmates; CR's of all the branches and submits a detailed report on the type of clubs and the nature of activities they will take up. Present the entire report with recommendations in Memo Format in capacity of General Secretary. Apply at least 4 procedures to acquire data.	**05+ 15** **20**	**02**	**03**	**4.1.2**

Q.3.	The All-India Council of Technical Education has appointed a ten-member committee to study the quality of technical education in the country and its relevance to the social needs and national requirements under NEP 2020. In its 8th Meeting held at 4 p.m. on 25 November, 2022 at Manikchand Bhavan, Netaji Marg, New Delhi-110006 this committee transacted the following business: 1. Confirmation of minutes of the previous meeting 2. Revision of courses with reference to Industry 5.0 3. Identification of the points Like lab facilities, Equipment, Course, on which information to be sought from institutions 4. Provision of compulsory internships to be provided to third year students 5. Constitution of four sub-committees for personal interaction with engineering colleges 6. Selection of courses across branches 7. Any other matter with the permission of the chairman. 8. Date for the next meeting **Assuming you to be the secretary of the review committee, Draft the Notice, Agenda, and Minutes for the above meeting.**	**(20)** **10** **10**	**04**	**02, 03**	**3.1.1**
Q.4 **A.** **B.**	**Post- Product Engineer** **Company: Wipro Pvt. Ltd., M.G. Road, Mumbai** **Experience- Two years with good communication skills and leadership qualities.** **Software proficiency: Mat lab, Python, Data structures and algorithms.** Write a Job Application letter in response to the above advertisement Prepare an appropriate Resume with a summary statement	**(20)** **10** **10**	**02**	**01**	**10.1.2**

Q.5. **A.** **B.**	Jyothi's concepts are clear and her reasoning is sound, but in the feedback to her presentations, the audience often says that she is very feeble. You just cannot hear her beyond the first two rows. She has also not made her PowerPoint slides properly. You want to see Jyothi improve the quality of delivery of her presentations, as you feel this is a critical skill needed going forward. What suggestions would you give her for presentations regarding improvement in the Content, Delivery and Attire? What tips would you like to give for the Visual Aids and Body Language during presentation?	**(20)** **10** **10**	**05**	**04**	**10.1.3**
Q.6. A. **Q.6.B.**	As a student in the third year civil branch, draft an email to OCIS faculty informing about the progress of your book report and briefly describing the summary of the report. Keep the Principal in CC and Dean Academics in BCC. Your friend is new to professional email writing. Explain in detail the do's and don'ts of an email.	**(20)** **10** **10**	**03**	**01**	**10.1.2**
Q.7. A **Q.7. B.** **Q.7. C**	**Identify the leadership styles and explain the style that emerge from the given case studies:** Stephen is the vice president of a medium- sized organization. He has been with the company for over 10 years. He directly manages a team of around 20 departmental managers, who between them are responsible for almost 300 people. He allows his managers to make most operational decisions. For example, when planning a major stock reduction programme, he encourages his managers to put forward ideas and develop plans. **Imagine for a moment that you are an online entrepreneur and you have a very successful website. This website is your primary source of income and your goal is to make it successful.** So let's say your to do list looks like this (in random order) • Write sales copy for new product • Watch the comedy skit on You-tube • Re-organize my desktop • Cancel dentist appointment • Download the new podcasts from The Ranveer Show	**(20)** **05** **05** **05**	**02** **01,03** **01**	**01** **05** **06**	**10.3.2** **12.3.2** **9.2.1**

Q.7. D.	• Attend Birthday party of Batch mate • Prepare a presentation for sales pitch of new product Based on your knowledge of Stephen Covey's Time Management Quadrant, in which quadrant does each task belong to? Draw the quadrant and place the task in the respective quadrants. **State whether the following statements are true or false.** a. Scheduling meetings is one of the most common tasks in modern workplace b. In a group, more the number, more knowledge and information can flow in. c. Leaders are born and not made. d. Statutory reports are written for the smooth functioning of an organization. e. When dealing with corporate politics, it is usually best to respect all people's opinions and treat everyone fairly to help make the best decisions for the success of the company. **Fill in the Blanks:** a. _____ showcases the contents of the report graphically b. A good report is always _____ in nature. c. _____ are one of the best methods of collecting primary information in writing reports. d. _____ interview is somewhat informal in nature. e. The first constituent of Etiquette is _____.	**05**	**03**	**06**	**12.1.1**

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RE-EXAMINATION, APRIL-2022

Program: **B.Tech. in Mechanical Engineering** Date: April-2023
Class: **Second Year B.Tech. (Mechanical)** Duration: **3 Hr.**
Course code:**MC-BTM 002** Max. Points: **100**
Name of the Course: **Indian Traditional Knowledge** Semester: **IV**

Instructions: Solve **ANY FIVE** Questions.

Q. No.	Question	Points	CO	BL	PI	Module
Q.1	**a) Explain:** *'Concept and Rule of Dharma in India since ancient times'* with suitable examples.	**(10)**	1	II	6.1.1	1
	b) Justify: *"India is the unique country with unity in diversity as its core strength since ancient times"* giving suitable examples.	**(10)**	1	VI	6.1.1	1
Q.2	**a) List:** Names of The Vedas and Upvedas. **Justify:***"Vedas are the eternal source of knowledge for the entire mankid".*	**(10)**	1	I,VI	6.1.1	2
	b) Justify: *"Nature is the supreme teacher (Guru)"* describing characteristics of any 03 elements in nature, learnings of Adi yogi Shri Dattatreya from these elements of nature.	**(10)**	1	VI	6.1.1	2
Q.3	**a) Explain:** With two examples the greatness of wisdom of ancient indian scholars in the field of mathematics and astronomy.	**(10)**	2	II	6.1.1	3
	b) Discuss: Superior Knowledge of ancient Indian sages explaining the valuable contribution of Maharshi Kanad	**(10)**	2	V	6.1.1	3
Q.4	**a) Explain:** Any one significant medical practice and medical practitioner in ancient India.	**(10)**	2	II	6.1.1	4
	b) **Justify:***"Yoga is the key for long life with good health"* in context of ancient as well as modern India.	**(10)**	2	VI	6.1.1	4
Q.5	**a) List:** Names of various Indian classical dance forms and **Describe:** Any two of them with its significance.	**(10)**	3	I, V	6.1.1	5
	b) List: Various traditional art forms of ancient Indian and **Describe:** any one of them.	**(10)**	3	I, V	6.1.1	5
Q.6	**a) Explain:** Rich heritage of Indian Traditional Languages since ancient times and significance of any one language of India.	**(10)**	3	II	6.1.1	6
	b) Discuss: Significance and teachings of any one great epic of ancient Indian tradition.	**(10)**	3	V	6.1.1	6
Q.7	**a) Discuss:** In brief, life, work, philosophy and contribution of Sant Dnyaneshwar Maharaj.	**(10)**	4	V	6.1.1	7
	b) Discuss: In brief, life, work, philosophy and teachings of Bhagwan Gautam Buddha for the entire mankind.	**(10)**	4	V	6.1.1	7