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QUESTION PAPER: (B.Tech/M.Tech/MBA) Class:

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		BEDKAR TECHNOL		Y, LONERE	
	End Sem	ester Regular Summer I	Examination - 2022-23		
	Course: B. Tech.	Branch :	Semester :	н	
	Subject Code & Name:B	THM204, Communicat	ion Skills		
	Max Marks: 60	Date:	Duration: 3 I	Ir.	
	which the question		() in front of the auestio	л.	
				(Level/CO)	Marks
Q. 1	Solve any TWO of the fo	perchange and a second s			12
A)	Explain the types/forms of	10000	D WANE GROUP OF WSTITO	Understand/1	6
B)	Discuss any three barriers		LIBRARY	Winderstand/1	6
C)	Write a short note on impo	rtance of reading skills.	ATHAR TARE VADGADI	Understand/1	6
Q.2	Solve any TWO of the fo	llowing:			12
A)	What are the principles of	practicing Group Discuss	ion (GD)?	Remember/3	6
B)	Write a detailed note on no	on-verbal communication		Remember/1	6
C)	Discuss interview techniqu	ies,		Understand/3	6
2.3	Solve any TWO of the fo	llowing:	SH FROMP AV TO		12
A)	Write the spelling for the f i. /kəm'pju:tə(r)/ ii. /ig.zæmi'netʃn/ iii. /'jestədet/	ollowing transcriptions.	ACC. No L 173 FLAPY	Remember/2	6
B)	Draw a diagram of Organs	of Speech. Explain any t	hree organs of speech.	Apply/2	6
C)	What is the role of phoneti			Remember/2	6
Q.4	Solve any TWO of the fol	Jowing:			12
A)	<ul> <li>I) Fill in the blanks with th</li> <li>i. Vinod wants to join</li> <li>ii. You areho</li> <li>iii. Rahul is</li> </ul>	e appropriate article/s (a, university. onest person.		Apply/4	6

12.1.1.1.2.

9	2	-	3	1	Ľ	_	

	II) Fill in the blanks with the appropriate preposition (from, since, up,		
	between, on, under).		ľ
	i. He has been writingmorning.		
	ii. Sudha sitsSaroj and Usman.		
	iii. What is the documentary?		
B)	I) Rewrite the sentences using the correct tense.	Apply/4	+
	<ol> <li>Simran (go) to her village last week. (Simple Past Tense)</li> </ol>		
	ii. I(teach) this subject for ten years(Present Perfect		
	Continuous Tense)		
	iii. He(open) the shop everyday (Simple Present Tense)		Ŀ
	II) Write the synonyms of the following words:		
	i. Abandon		
	ii. Illiterate		
	iii. Zenith		
C)	1) Write the antonyms of the following words:	Apply/4	-
	i. Arrogant		
	ii. Ancient		
	iii. Virtue		
	2) Correct the following sentences:		
	iv. He is my older brother.		
	v. My friend lives in abroad.		
	ví. I love travel.		
Q. 5	Solve any ONE of the following:		
A)	1) Write a detailed report on an activity arranged by your college. (For	Remember/4	-
	example, Blood Donation Camp, Tree Plantation Drive, etc)	Keinember	
	2) Write an application to your H o D requesting three days leave for yours		
	sister's marriage ceremony.		
-	OR	-	ŀ
B)	Use Full Block Format and write an application for the post of Asst.	Remember/4	-
	and the rate Consultancy Services (TCS) No. 11/2 P.	Rememberry	
	(The Times of India, 10 <sup>th</sup> July 2022)		Ľ
	Attach your CV/Resume.		
	*** End ***		-
e grid	*** End *** and the borders of the table will be hidden before final printing.		

I

	DR. BABASAHEB AN	IBEDKAR TECHNOLO	GICAL UNIVERSITY, LO	ONERE	
		ester Regular Summer E			
	Course: B. Tech.	Branch :	Semester : II		
	Subject Code & Name:B	THM204, Communicati	on Skills		
	Max Marks: 60	Date:	Duration: 3 Hr.	1	
	which the question	re compulsory.	OBE or the Course Outcom ) in front of the question. d mention it clearly.	e (CO) on	
				.evel/CO)	Mark
Q. 1	Solve any TWO of the fo	llowing:			12
A)	Explain the types/forms o	f communication.	U	nderstand/I	6
B)	Discuss any three barriers	to communication?	U	nderstand/1	6
C)	Write a short note on impo	ortance of reading skills.	U	nderstand/1	6
Q.2	Solve any TWO of the fo	llowing:			12
A)	What are the principles of	practicing Group Discuss	ion (GD)?	emember/3	6
B)	Write a detailed note on n	on-verbal communication.	18	lemember/1	6
C)	Discuss interview techniq	ues.	Ŭ	nderstand/3	6
Q. 3	Solve any TWO of the fo	llowing:			12
A)	Write the spelling for the i. /kəm'pju:tə(r)/ ii. /ıg.zæmı'neıʃn/ iii. /ˈjestədeɪ/	following transcriptions.		Remember/2	6
B)	Draw a diagram of Organ	s of Speech. Explain any th	hree organs of speech.	Apply/2	6
C)	What is the role of phonet	ics in effective English co	mmunication?	Remember/2	6
Q.4	Solve any TWO of the fo	llowing:			12
A)	<ol> <li>Fill in the blanks with the second sec</li></ol>	university.		Apply/4	6

	between, on, under).		
	i. He has been writingmorning.		
	ii. Sudha sitsSaroj and Usman.		
	iii. What is the documentary?		
B)	<ol> <li>Rewrite the sentences using the correct tense.</li> <li>Simran (go) to her village last week. (Simple Past Tense)</li> <li>I (teach) this subject for ten years(Present Perfect Continuous Tense)</li> </ol>	Apply/4	
	iii. He (open) the shop everyday (Simple Present Tense)		
	<ul> <li>II) Write the synonyms of the following words:</li> <li>i. Abandon</li> <li>ii. Illiterate</li> <li>iii. Zenith</li> </ul>		
C)	<ol> <li>Write the antonyms of the following words:         <ol> <li>Arrogant</li> <li>Ancient</li> <li>Virtue</li> </ol> </li> </ol>	Apply/4	
	<ol><li>Correct the following sentences:</li></ol>		
	iv. He is my older brother.		
	<ul> <li>v. My friend lives in abroad.</li> <li>vi. I love travel.</li> </ul>		
Q.5	Solve any ONE of the following:		1
A)	<ol> <li>Write a detailed report on an activity arranged by your college. (For example, Blood Donation Camp, Tree Plantation Drive, etc)</li> <li>Write an application to your H o D requesting three days leave for yours sister's marriage ceremony.</li> </ol>	Remember/4	6
	OR		
B)	Use Full Block Format and write an application for the post of Asst. Engineer in Tata Consultancy Services (TCS), No. 11/2 Palace Road, Bangalore. (The Times of India, 10 <sup>th</sup> July 2023) Attach your CV/Resume.	Remember/4	12
	*** End ***		

		BEDKAR TECHNOLOGICAL UNIVERS Summer Examination – 2023	SITY, LONERE	
	Course: B. Tech.	Branch : FE All	Commenter	
	Subject Code & Name: E	ngincering Mathematics-II (BTBS201)	Semester : II	
	Max Marks: 60			
-	Instructions to the Student	Date: 12-07-2023	Duration: 3 Hr.	0
	<ol> <li>All the questions are</li> <li>The level of question which the question i</li> <li>Use of non-program</li> </ol>	s: e compulsory. n/expected answer as per OBE or the Course is based is mentioned in () in front of the que umable scientific calculators is allowed. a wherever necessary and mention it clearly.	stion.	
			(Level/CO	Marks
			)	
Q. 1	Solve Any Two of the follo	wing.		12
A)	If $\tan(A + iB) = x + iy$ the	en show that		
	i) $\tan 2A = \frac{2x}{1 - x^2 - y^2}$ ii) $\tanh 2B = \frac{2y}{1 + x^2 + y^2}$	< . (c) (i	Understan d (CO1)	6
B)	Show that the roots of $x^5 =$	1 are $1, \alpha, \alpha^2, \alpha^3, \alpha^4$ and	Understan	
	hence prove that $(1 - \alpha)(1 - \alpha)$	$(-\alpha^2)(1-\alpha^3)(1-\alpha^4) = 5$	6) d (CO1)	6
C)	Prove that $\tan\left[i\log\left(\frac{a-ib}{a+ib}\right)\right]$	$=\frac{2ab}{a^2-b^2}$	d (CO1)	6
Q.2	Solve Any Two of the follo	wing.	5	12
A)	Solve $\frac{dy}{dx} + x \sin 2y = x^3 \cos 2y$	s <sup>2</sup> y ~ (2) (3)	Understan 28 d (CO2)	6
B)	Solve $y  dx - x  dy + \log x  dy$	dx = 0 (2)	Understan d (CO2)	6
C)	constant resistance R ohm in	ce E volts is applied to a current containing series and a constant inductance L Henries. ow that the current builds up to half its theory econds.	a If Apply	6
Q. 3	Solve Any Two of the follow			12
A)	Solve $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} + y = e^x + $	100	Understan d (CO3)	6
B)	06.46	* log x by method of variation of paramet		6
C)	Solve $x^2 \frac{d^2 y}{dx^2} - 2x \frac{dy}{dx} + 2y =$	x <sup>2</sup> ( <sup>l</sup> <sub>1</sub> )	Understan d (CO3)	6
Q.4	Solve Any Two of the follow	ving.		12
A)		function $f(x) = x$ in the interval $(0, 2\pi)$ .	Understan d (CO4)	6
B)	Find the Fourier series of $f(x)$ show that $\frac{\pi^2}{6} = \frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2}$	$x = x^2$ in the interval $-\pi < x < \pi$ and here		6

C)	If $f(x) = \begin{cases} x & ,  0 < x < \frac{\pi}{2} \\ \pi - x & ,  \frac{\pi}{2} < x < \pi \end{cases}$ then find half range Fourier sine series Hence show that $f(x) = \frac{4}{\pi} \left( \sin x + \frac{\sin 3x}{3^2} + \frac{\sin 5x}{5^2} + \cdots \right)$	Understan d (CO4)	-
Q.5	Solve Any Two of the following.		-
A)	If $\overline{r} = xi + yj + zk$ and $r =  \overline{r} $ then Find $\nabla \cdot \overline{F}$ ,		_
	where $\overline{F} = \left(\frac{x}{r}\right)i + \left(\frac{y}{r}\right)j + \left(\frac{z}{r}\right)k$	Understan d (CO5)	
B)	Verify Green's theorem for $\oint_C ((xy + y^2)dx + x^2dy)$ where C is bounded by $y = x$ and $y = x^2$	Understan	-
C)	Verify the Stokes theorem for $\overline{F} = x^2i + xyj$ over the square in the plane	d (CO5)	_
	z = 0 bounded by the lines $x = 0, x = a, y = 0$ and $y = a$	Apply (CO5)	
	*** End ***		-

2	DR. BABASAHEB AN	MBEDKAR TECHNOLO	GICAL UNIVERSITY, LONERE	
		ester Regular Summer Es		
	Course: B. Tech.	Branch :	Semester : II	
	Subject Code & Name:	3THM204, Communicatio	n Skills	
	Max Marks: 60	Date:	Duration: 3 Hr.	
	which the question	ire compulsory.	OBE or the Course Outcome (CO) on ) in front of the question. I mention it clearly.	
			(Level/CO)	Mark
Q.1	Solve any TWO of the fo	ollowing:		12
A)	Explain the types/forms o	f communication.	Understand/1.	6
B)	Discuss any three barriers	to communication?	Understand/1	6
C)	Write a short note on impo	ortance of reading skills.	Understand/1	6
Q.2	Solve any TWO of the fo	llowing:		12
A)	What are the principles of		on (GD)? Remember/3	6
B)	Write a detailed note on n		Remember/1	6
C)	Discuss interview techniq		Understand/3	6
0.1	Solve any TWO of the fo	llowing:		12
Q. 3 A)	Write the spelling for the f i. /kəm*pju:tə(r)/ ii. /ɪg.zæmi'neɪʃn/	ollowing transcriptions.	MARE GROUP OF Marine Remember/2	6
-	iii. /'jestadet/ Draw a diagram of Organs	of Speech Explain any th	ree organs of speech. Apply/2	6
B) C)	Draw a diagram of Organs What is the role of phonetic	cs in effective English con	ununication? Remember/2	6
-1	an the second			
Q.4	Solve any TWO of the fo	llowing:		12
A)	<ol> <li>Fill in the blanks with th</li> <li>Vinod wants to join</li> </ol>	e appropriate article/s (a, a university.		6

	*** End ***		
-/	Use Full Block Format and write an application for the post of Asst. Engineer in Tata Consultancy Services (TCS), No. 11/2 Palace Road, Bangalore. (The Times of India, 10 <sup>th</sup> July 2023) Attach your CV/Resume.	Remember/4	
B)	OR Use Full Block Format and		╞
	<ol> <li>Write an application to your H o D requesting three days leave for yours sister's marriage ceremony.</li> </ol>	Remember/4	
A)	1) Write a detailed report on an activity arranged by your college. (For		Γ
Q. 5	Solve any ONE of the following:		
	vi. I love travel.		
	v. My friend lives in abroad.		
	iv. He is my older brother.		
8	2) Correct the following sentences:		
	iii. Virtue		
	ii. Ancient		
1	<ol> <li>Arrogant</li> </ol>	Apply/4	ľ
C)	<ol> <li>Write the antonyms of the following words:</li> </ol>		
	iii. Zenith		
	i. Abandon ii. Illiterate		
	<ul> <li>II) Write the synonyms of the following words:</li> <li>i. Abandon</li> </ul>		
	iii. He(open) the shop everyday (Simple Present Tense)		
	Continuous Tense)		
	ii. I(teach) this subject for ten years(Present Perfect		
	i. Simran(go) to her village last week. (Simple Past Tense)		
B)	<ol> <li>Rewrite the sentences using the correct tense.</li> </ol>	Apply/4	-
	iii. What is the documentary?		
	ii. Sudha sitsSaroj and Usman.		
	i. He has been writingmorning.		
	between, on, under).		

# DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE End Semester Examination – Summer 2023

Date:-14/07/2023

or start a start way	
Course: B.Tech.	Sem: II
Subject: Engineering Chemistry	Subject code: BTBS202
Marks: 60	Duration: 3 hr.
Instructions for students:	
<ol> <li>All the questions are compulsory.</li> </ol>	
2. Draw a neat labelled diagram wherever necessary,	

3. Read question properly

Q1	Solve any TWO of the following:	Level/CO	Marks
A)	Explain the zeolite process of softening of water with its advantages and disadvantages.	(understanding)	06
8)	Explain in detail Hot-Lime Soda process with its advantages and disadvantages.	(understanding)	06
C)	How does the Hardness of water determine by EDTA complexometric method.	(Apply)	06
Q2.	Q2. Solve any TWO of the following:		
A)	State phase rule equation. Explain the term component of phase rule with examples.	(Understanding)	06
B)	Explain phase diagram of one component water system with neat labelled diagram.	(Understanding)	06
C)	What is meant by Eutectic point? Explain silver-lead 2 component alloy system with phase diagram.	(application)	06
Q3.	Solve any TWO of the following:		
A)	Write a note on Dry/Chemical corrosion. Explain mechanism of corrosion due to oxygen.	(knowledge)	06
B)	B) Suggest the criteria for selection of metal and role of proper designing for corrosion control.	(understanding)	06
C)	<ul> <li>C) Define Anodic protection method and explain the process with the help of neat labelled diagram.</li> </ul>	(knowledge)	06
Q4.	Solve any TWO of the following:		
A)	Define Calorific value and the concept of Gross and Net calorific value.	(knowledge)	06
B)	What are the conditions under which solid lubricants are used and write a note on Graphite.	(application)	05
C)	Describe Fractional distillation process with near labelled diagram and give end use of each fraction.	(Understanding)	06
Q5	Colucionary TWO of the following		
A)	A) Define Ohm's law, Specific conductance, equivalent conductance, molecular conductance, and cell constant with their units.	(Understanding)	05

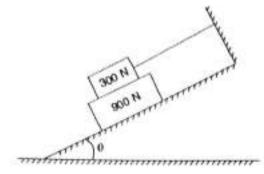
B)	B) Write a note on Ostwald's theory of acid base indicators.	(knowledge)	06
	C)What is conductometric titration? Explain	1040AVI-11102-20081-7.8-0.34	06
10	conductometric titration of strong acid versus strong base	(Application)	
	with graphical representation.		

	DR. BABASAHEB AM	BEDKAR TECHNOLOGICAL UNIVE	ERSITY, LONERE	
	Regular	End Semester Examination - Summer 2		
	Course: B. Tech.		Semester: II	
	Subject Code & Name: B	TBS202P (Engineering Physics)		
	Max Marks: 60		Duration: 3 Hr.	
	<ol> <li>Use of non-program</li> <li>Assume suitable data</li> </ol>	e compulsory. n/expected answer as per OBE or the Cou is based is mentioned in () in front of the q mable scientific calculators is allowed. a wherever necessary and mention it clear	puestion.	Mark
Q. 1		-		
A)	Define Damped Vibrations.	Set up differential equation for damped	(CO1)	
	vibrations.		(Remember &	6
			Understand)	
B)	Explain the construction, wo	(CO1)	6	
	using Piezoelectric oscillator	(Understand)		
C)	State any two applications o		55 	
	Calculate the length of iron i	rod which can be used to produce ultrason	ic (CO1)	
	waves of 20 KHz. Density o	f iron is 7.23 X 103 kg/m3, Young's modu	( Remember &	6
	is 11.6 X 10 <sup>10</sup> N/m <sup>2</sup>		Understand)	
Q.2	Solve Any Two of the follow	wing.		
A)	In Newton's rings, derive an	expression for diameter of nth bright ring	(000)	
	and dark ring.	<u>e</u>	(CO2)	6
B)	Explain the construction & w	vorking of Ruby laser	(Understand)	
		and a second second	(CO2)	6
C)	Explain the structure of ontic	al fiber with suitable diagram.	(Understand)	0.29
	And the second		(CO2)	
		ture of a optical fiber with core index	(Remember	6
	n <sub>1</sub> =1.61 and cladding index :	n <sub>2</sub> =1.55	& Understand)	
Q. 3	Solve Any Two of the follow	ving.		
A)		e construction & working of Bainbridge	Margara and	
	mass spectrograph.	a norming of Bainbridge	(CO3)	6
B)	Write short note on Geiger Muller Counter.		(Understand)	U
	and more one one one get in	Contra Contrat.	(CO3)	6
C)	State Heisenberg's Uncertain	ty Principle with Commut	(Understand)	0
10101	source reisenberg's Uncertain	ry rimeipie with formula.	(CO3)	6

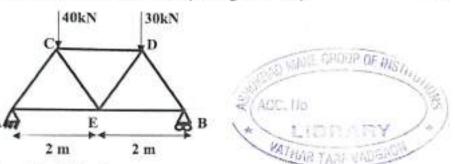
	265	
If the uncertainty in position of an electron is $4 \times 10^{-10}$ m, Calculate the uncertainty in its momentum. (h=6.62 *10 <sup>-34</sup> J Sec)	(Understand)	
Solve the following questions.		
Calculate Atomic Packing Fraction for SC, BCC and FCC lattices.	(CO4)	
Explain Continuous X-ray spectra.	(Understand)	6
Calculate the wavelength of X-rays when a potential difference of 30 KV is applied between filament and anode.	(CO4) (Understand)	6
Solve Any Two of the following.		
Explain Diamagnetic, Paramagnetic and Ferromagnetic materials with	(Understand)	6
	(onderstand)	6
Derive an expression for conductivity of Intrinsic and extrincing	(Understand)	6
& N Type) Semiconductors.	(Understand)	6
	uncertainty in its momentum. (h=6.62 *10 <sup>-34</sup> J Sec) Solve the following questions. Calculate Atomic Packing Fraction for SC, BCC and FCC lattices. Explain Continuous X-ray spectra. Calculate the wavelength of X-rays when a potential difference of 30 KV is applied between filament and anode. Solve Any Two of the following. Explain Diamagnetic, Paramagnetic and Ferromagnetic materials with examples and diagram. Distinguish between Type I and Type II superconductors. Derive an expression for conductivity of Intrinsic and extrinsio (P. Two)	If the uncertainty in position of an electron is 4 × 10 <sup>-10</sup> m, Calculate the uncertainty in its momentum. (h=6.62 * 10 <sup>-34</sup> J Sec)       (Understand)         Solve the following questions.       (CO4)         Calculate Atomic Packing Fraction for SC, BCC and FCC lattices.       (CO4)         Explain Continuous X-ray spectra.       (CO4)         Calculate the wavelength of X-rays when a potential difference of 30 KV is applied between filament and anode.       (CO4)         Solve Any Two of the following.       (Understand)         Explain Diamagnetic, Paramagnetic and Ferromagnetic materials with examples and diagram.       (Understand)         Distinguish between Type I and Type II superconductors.       (Understand)         Perive an expression for conductivity of Intrinsic and extrinsic (P Type       (Understand)

\*\*\* End \*\*\*

B) What should be the value of θ that will make the motion of 900 N block down the plane to impend? The coefficient of friction for all contact surfaces is 1/3. (Note: Upper block weighs 300 N)

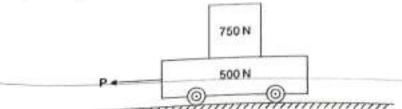


C) Find out forces in all the members of truss. (All angles are 60°)



Q. 4 Solve Any Two of the following.

Understand 06 A) State and prove work energy principle. CO 4 06 B) A body moves along a straight line and its acceleration 'a' which varies with time is given by a = 2 - 3t. Five seconds after start of the observations, its velocity is found to be 20 m/sec. Ten seconds after start of the observation, the body is at 85 m from the origin. Determine its acceleration, velocity and distance from the origin. C) If a particle is projected inside a horizontal tunnel which is 5 meters high with CO 4 06 velocity of 60 m/s, find the angle of projection and the greatest possible range. Q.5 Solve Any Two of the following. A) State and explain with mathematical equation: (i) Law of conservation of Remember 06 momentum (ii) Coefficient of restitution. B) A 750 N crate rests on a 500 N cart. The coefficient of friction between the CO 5 06 crate and the cart is 0.3 and between cart and the road is 0.2. If the cart is to be pulled by a force P such that the crate does not slip. 750 N



06

06

CO2

CO2

Using D' Alembert's principle, determine:

(i) the maximum allowable magnitude of P,

(ii) the corresponding acceleration of the cart.

C) A 1500 N block is in contact with a level plane, the coefficient of friction between two contact surfaces being 0.1. If the block is acted upon by a horizontal force of 300 N, what time will elapse before the block reaches a velocity of 16 m/sec starting from rest? If 300 N force is then removed, how much longer will the block continue to move? Solve the problem using impulse momentum equation.

#### \*\*\* End \*\*\*

CO 5

06

# DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

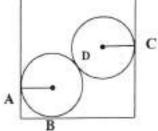
<i>p</i> -		Regular Semester Examination – Summer 2023		
Course	First Y	방법 방법 이 가는 것같이 물건을 가지 않는 것이 없는 것이 없는 것이 없다.	oup A/Grou	p B
		and the second	ie: BTES203	
	arks: 60			
	Instruc 1. 2. 3.	ctions to the Students: All the questions are compulsory. The level of question/expected answer as per OBE or the Course Outco which the question is based is mentioned in () in front of the question. Use of non-programmable scientific calculators is allowed. Assume suitable data wherever necessary and mention it clearly.		
			(Level/CO)	Marks
Q.1	- 1970 The Prod 511	Any Two of the following.		
A)	(I) Def Theore	ine following terms: Static, Dynamic, Law of parallelogram, Lami's m.	Remember	06
	(II) Wr	ite down the characteristics of force.		
B)		er weighing 100 N is to be kept in the position shown in figure, resting	CO 1	06
21		nooth floor and leaning on a smooth wall, also a man weighing 700 N		
	ic at 2r	n above floor level. Determine (i) The horizontal force F required at		
	floor le	evel to prevent it from slipping. (ii) If the horizontal force F is to be		
	HOOT IG	at a height of 1 m above the ground level, how much should F be?		
	2002	700 N B T 3 m 2	TY .	
	71111	Aminim	CO 1	06
C)	The fo	llowing forces are acting at a point;		
1.1		an a Fast to North		

- (i) 20 N inclined at 30° from East to North,
- (ii) 25 N towards North,
- (iii) 30 N inclined at 45° from North to West,
- (iv) 35 N inclined at 40° from West to South.

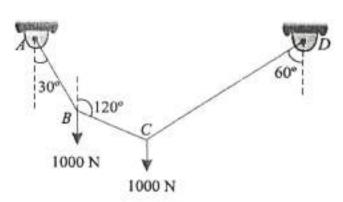
Find the magnitude and direction of the resultant force.

#### Q. 2 Solve Any Two of the following.

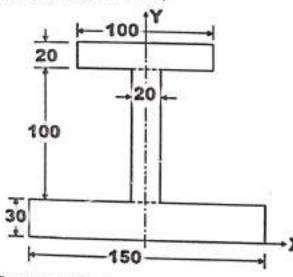
A) The cylindrical rollers of weight 50 N each having radius 0.3 m are placed inside a cup having base width 1 m. Find reactions at points of contact A, B, C and D.



B) A string ABCD, attached to fixed points A and D has two equal weights of 1000 N attached to it at B and C. The weights rest with the portions AB and CD inclined at angles. Find the tensions in the portions AB, BC and CD of the string, if the inclination of the portion BC with the vertical is 120°.



C) Locate the centroid of the I-section shown in figure with respect to the Application axes shown. (All dimensions are in mm)



- Q. 3 Solve Any Two of the following.
  - A) Define friction. What are the Coulomb's laws of dry friction?

Remember

06

, copy	3, concatenation	4. reverse.

Instructions to the Students: 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question. 3. Use of non-programmable scientific calculators is allowed. Assume suitable data wherever necessary and mention it clearly. (Level / Marks CO) [12] Q. 1 Solve Any Two of the following. Write note on Program Process Development. A) Write an algorithm and draw a flowchart for a program to print sum and average of 'n' B) natural numbers. Write a short note on the Tokens in C Language. C) [12] Solve Any Two of the following. Q.2 Write a program to find the maximum number from 3 numbers enter by user. A) Explain any three types of operators along with it's precedence and associativity. B) Write a program to create simple calculator to perform addition, subtraction, division, and C) CROUP OF INS multiplication operations. [12] ACC. No. Solve Any Two of the following. Q.3 Write a program to print area of square using function. AT NAN TAS A) Write a program to print factorial of a given number using while and also, write the B) program using do....while loop. Differentiate between while and do.....while loop. C) [12] Solve Any Two of the following. Q.4 reint the addition and subtraction of the two Matrices. Write a program to perform and A) Write a program to perform the B) library function): 2 find length of string

### Regular Summer Examination – 2023

Branch : Civil/Chemical/Petrochemical/Mechanical Semester :II Course; B. Tech.

Date:

Max Marks: 60

Subject Code & Name: Computer Programming in C [BTES204]

Duration: 3 Hr.

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

C) Write syntax of following Concepts of C: 1. Array 2. Switch 3. Function

## Q. 5 Solve Any Two of the following.

- A) Write a program in C to create a structure of student with fields such as Student Name, Roll Number and Marks of two subjects as its members. Calculate average of two subjects Read the details of 'n' students from user and then display the data in this format.
   Roll No. Name Sub1 Sub2 Total Average
- B) Write a program in C to create a structure having named as Books consists of title, author, subject, book\_id as its members. Read the details of five books from user and then display the data entered by the user on Screen (Use array of structure).
- C) Define structure with suitable example. What is difference between structure and Union?

\*\*\* End \*\*\*

#### DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Regular & Supplementary Semester Examination - Summer 2023 Course: B. Tech. Branch: Group B Semester: II Subject Code & Name: BTES205/BTES205E Energy and Environment Engg. Max Marks: 60 Date: 21/7/2023 Duration: 3 Hrs. Instructions to the Students: 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question. 3. Use of non-programmable scientific calculators is allowed. 4. Assume suitable data wherever necessary and mention it clearly. (Level/CO) Marks O.1 Solve any two of the following. 12 A) Explain the working of a Hydro electric power plant with neat diagram. COI 6 B) What is the nuclear chain reaction? Explain the importance of moderator and CO1 6 control rods in a nuclear reactor with respect to chain reaction C) What are the fossil fuels used for generation of conventional power? COI 6 Explain in detail Steam power plant. Q.2 Solve Any Two of the following. 12 A) How the wind mills are classified? Sketch the diagram of HAWT, and ex-CO2 6 plain the function of its main components. B) What is Bio-mass? Write construction and working of bio-gas plant, with a CO2 6 neat diagram. Also write down the advantages of it. C) Define solar energy. What is flat plate collector? Describe its components CO2 6 with suitable sketch. 12 Q.3 Solve Any Two of the following. A) What do you mean by energy conservation? Explain the measures to be CO2 6 taken to reduce the energy conservation in domestic activities. List any four measures. B) What do you understand by maximum energy efficiency in context with en-CO1 6 ergy conservation principle? Discuss with a suitable example, CO2 C) Write down methods of energy conservation in electric furnaces. 6 12 Q.4 Solve Any Two of the following. A) Define Air Pollution. Write down the different classification of air pollution 6 CO3 sources. B) Explain briefly effect of air pollution on human being and vegetation. CO1 6 C) What is radioactive pollution? What are its effects? How we can control Ra-6 CO3 dioactive Pollution? 12 Q. 5 Solve any two of the following.

A)	What are the main causes of water pollution? How can water pollution be	CO3	6
1.2011	controlled?		
B)	Explain the following terms: a. Thermal pollution b. Acid rain	C03	6
C	What are the various methods of safe disposal of solid wastes?	CO3	6
	*** End ***		

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	DR. BABASAHEB AMBEDKAR	r Examination - 2023		, LONERE	
	Constant Constant				
	Course, D. Teen	ranch : FE All		nester : II	
	Subject Code & Name: Engineering		201)		
	Max marker of	e: 12-07-2023	Dur	ester : II ation: 3 Hr. ome (CO) on (Level/CO ) (Level/CO ) Understan d (CO1) Understan d (CO1) Understan d (CO1) Understan d (CO2) Understan d (CO2) Understan d (CO2) Understan d (CO3) Understan d (CO3) Understan d (CO3)	
_	Instructions to the Students: 1. All the questions are compulso 2. The level of question/expected of which the question is based is n 3. Use of non-programmable scient 4. Assume suitable data wherever	answer as per OBE or the mentloned in ( ) in front oj ntific calculators is allow	<sup>r</sup> the question ed.		
				(Level/CO	Mark
Q.1	Solve Any Two of the following.				12
A)	If $tan(A + iB) = x + iy$ then show that i) $tan 2A = \frac{2x}{1 - x^2 - y^2}$ ii) $tanh 2B = \frac{2y}{1 + x^2 + y^2}$	it 2010-11 2010-11	IN LIEILAR	Understan	6
B)	Show that the roots of $x^5 = 1$ are 1, $\alpha$ ,	$\alpha^2, \alpha^3, \alpha^4$ and $\alpha^{1/1}$	LAR THAT VAS	Understan	- E - 1
	hence prove that $(1 - \alpha)(1 - \alpha^2)(1 - \alpha^2)$	$\alpha^3)(1-\alpha^4)=5$			6
C)	Prove that $\tan\left[i\log\left(\frac{a-ib}{a+ib}\right)\right] = \frac{2ab}{a^2-b^2}$				6
Q.2	Solve Any Two of the following.				12
A)	Solve $\frac{dy}{dx} + x \sin 2y = x^3 \cos^2 y$			1	6
B)	Solve $y  dx - x  dy + \log x  dx = 0$			Understan	6
C)	A constant electromotive force E volts is constant resistance R ohm in series and the initial current is zero, show that the cal maximum in $\left(\frac{L}{R} \log 2\right)$ seconds.	a constant inductance L H	lenries. If	Apply	6
Q.3	Solve Any Two of the following.			-	12
A)	Solve $\frac{d^2y}{dx^2} - 2\frac{dy}{dx} + y = e^x + xe^x \cos x$			CASE 2 C C C C C C C C	6
	Solve $(D^2 + 2D + 1)y = e^{-x} \log x$ by r		arameters	Understan	6
0	Solve $x^2 \frac{d^2y}{dx^2} - 2x \frac{dy}{dx} + 2y = x^2$			Understan	6
Q.4	Solve Any Two of the following.			u (000)	12
~	Find the Fourier series of the function $f($	(x) = x in the interval (0,	2π).	17 7 7 7 9 4 0 1 X X X X 4	6
B)	Find the Fourier series of $f(x) = x^2$ in the show that $\frac{\pi^2}{6} = \frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \cdots$	he interval $-\pi < x < \pi$ a	ind hence	Understan	6

0)	z = 0 bounded by the lines $x = 0, x = a, y = 0$ and $y = a$	(CO5)	6
C)	by $y = x$ and $y = x^2$ Verify the Stokes theorem for $\overline{F} = x^2i + xyj$ over the square in the plane	d (CO5) Apply	
B)		Understan	6
A)	If $\bar{r} = xi + yj + zk$ and $r =  \bar{r} $ then Find $\nabla \cdot \bar{F}$ , where $\bar{F} = \left(\frac{x}{r}\right)i + \left(\frac{y}{r}\right)j + \left(\frac{z}{r}\right)k$	Understan d (CO5)	6
Q. 5	Solve Any Two of the following.		12
C)	If $f(x) = \begin{cases} x & ,  0 < x < \frac{\pi}{2} \\ \pi - x & ,  \frac{\pi}{2} < x < \pi \end{cases}$ then find half range Fourier sine series Hence show that $f(x) = \frac{4}{\pi} \left( \sin x + \frac{\sin 3x}{3^2} + \frac{\sin 5x}{5^2} + \cdots \right)$	Understan d (CO4)	(

