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iours nis question	n nar	per Cons	ists o	f 5 S	ectio	ns A	Ansu	ver F	IVE	Oue	estion	1 C	hoos	arks: A	V VE OI	uestion
SECTION	V and	d each C	uestic	on ca	rries	14 n	nark	S.	1112	Que	50101	.15, C	100.	Sing OI	IL QI	<i>iestion</i>
			-			**	*									
					<u> </u>	SEC'	TIO	N-I								
Find a re	eal ro	oot of th	e equa	ation	f(x	x = x	x^3	x-1	= 0	using	g Bis	ectio	on m	ethod		[7M]
Using N	ewto	on- Rapl	nson r	neth	od to	o find	l the	root	of tl	ne ec	Juati	on f	\dot{x}	$=e^{x}$ -	-3x	
that lies	betw	veen 0 a	nd 1.													[7M]
						(OR									
The tabl	e bel	low give	es the	value	es of	tan	x fo	r 0.1	0≤.	$x \le 0$).30					[14M]
x		0.10		0.1	5		0.20)	().25		0.30)			
$y = \tan \theta$	n x	0.100	3	0.15	11	0).202	27	0.	2553	3 ().309	93			
Find (a)) tan	0.12 (b)	<i>tan</i> C).26												
					<u>S</u>	SECT	ΓΙΟΙ	<u>N-II</u>								
	\int_{Γ}^{π}	7														[10M]
Evaluate		n $x dx$	by div	vidin	g the	e rang	ge in	to 1() equ	ial pa	arts ı	ising				
i	o . Tra	pezoida	l rule													
	•	pezoiaa	1	1												
1	1. S11	mpson,s	$\frac{-}{3}$ ru	le												
Using T	ovlo	raorioa	find	(0 1 [°]	G	won t	that	dy _	.1.	× 1) (nd .	(0)	_ 1			5 43 4 3
Using 1	ayıo	series,	inia y	(0.1)	, U		inai	dx	-1+,	iy d	ina .	y(0) ·	- 1			[4][1]
						(OR									
Using Pi	icard	's meth	od, fir	nd y(0.1)	, Giv	en tl	nat –	$\frac{ly}{ly} = \frac{1}{2}$	y - x	c - ar	nd y	(0) =	1		[6M]
-								G	lx	y + x	С					
Find the	curv	ve of bes	st fit o	f the	type	e y =	ae	^{bx} to	the f	follo	wing	g data	a by	the met	thod	
of least s	squa	res														[8M]
x		2	4			6		8			10					
y	4	.077	11.0	84	30).128		81.8	97	22	22.62	2				
. ¥					S	ECT	ION	I-III								
			c	<i>c</i> ()	($\pi - x$	$\left(\right)^{2}$	0		2						[8M]

Roll No

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India) I B.Tech II Semester Supplementary Examinations, April/May 2019

Time: 3 Note: T on from eacl

Mathematics-II (Common to all branches)

4 a) b) 5 a) Find a Fourier series for= $f(x) = \left(\frac{\pi}{2}\right)$ for $0 < x < 2\pi$ [6M] Obtain half range cosine series for $f(x) = x, 0 < x < \pi$ b)

Page 1 of 2

R17

- M]
 - - **M**]

3a)

1 a)

b)

2

Code No: R17A0022

b)

6	a)	Find the Fourier series to represent the function $f(x) = \sin x , -\pi \le x \le \pi$	[7M]
	b)	Find the half range sine series for the function $f(t) = t - t^2$, $0 < t < 1$	[7M]
		<u>SECTION-IV</u>	
7	a)	Form the partial differential equation by eliminating the arbitrary function f from	[7M]
		$xy + yz + zx = f\left(\frac{z}{x+y}\right)$	[7M]
	b)	Solve $x^{2}(y-z) p + y^{2}(z-x) q = z^{2}(x-y)$	
		OR	
8	a)	Solve $p \tan x + q \tan y = \tan z$	[10M]
	b)	Solve z=px+qy+pq	[4M]
		SECTION-V	
9	a)	Find the Laplace transform of $t e^{-t} \sin 3t$	[7M]
	b)	Find $L\left\{\frac{1-\cos t}{t^2}\right\}$	[7M]

10a)

Find the Laplace transform of (i)
$$\frac{e^{-at} - e^{-bt}}{t}$$
 (ii) $\cos 3t \sin 5t$ [6M]
b) Using Convolution theorem, Evaluate $L^{-1}\left\{\frac{s}{\left(s^2 + a^2\right)^2}\right\}$ [8M]

OR

Code No: R17A0012

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

I B.Tech II Semester Supplementary Examinations, April/May 2019

Engineering Physics-II

(Common to all branches)										
Roll No										

Time: 3 hours Max. Marks: 70 Note: This question paper Consists of 5 Sections. Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks. **** **SECTION-I** 1 (a) Explain the forces between the two interacting atoms when they are brought to [7M+7M] near to form a molecule. (b) Describe the crystal structure of NaCl. OR 2 (a) Describe with a suitable example, the formation of covalent bonds in solids. [7M+7M] (b) Deduce the expression for the inter-planar spacing in the case of cubic structure. **SECTION-II** (a) Describe with a neat diagram Laue's method of determine the crystal structure. 3 [7M+7M] (b) Write notes on Point defects in crystals OR 4 (a) What are the applications of X-ray diffraction studies? [4M+10M](b). Derive an expression for concentration of Frenkel defect in an ionic crystal. **SECTION-III** 5 (a) Explain Clausius Mosotti relation in dielectrics subjected to static fields. [10M+4M](b) With usual notation show that $P = E \in (\in_r -1)$

OR

	OK	
6	(a) Explain ionic polarization mechanism in dielectric materials.	[10M+4M]
	(b) Define (i) Polarizability (ii) Dielectric constant.	
	SECTION-IV	
7	(a) What is Meissner effect? Explain.	[5M+9M]
	(b) Explain the classification of magnetic materials.	
	OP	

OR Image: OR [8M+6M] 8 (a) Describe properties of Superconductors. [8M+6M] (b) Define the terms magnetic susceptibility, magnetic induction and permeability. [8M+6M] 9 (a) What are Nanomaterials? Why do they exhibit different properties? [6M+8M] (b) Describe the term Quantum confinement. OR 10 (a) Write note on surface to volume ratio of nano-particles. [8M+6M]

10(a) Write note on surface to volume ratio of nano-particles.[8M+6M](b) Give the advantages of TEM.

R17

Code No: **R17A0014**

R17

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

I B.Tech II Semester Supplementary Examinations, April/May 2019

Environmental Studies (FFF FCF CSF & IT)

	- 	, CD.	Ľœ	11)		
Roll No						

Time: 3 hours

Max. Marks: 70

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

*** SECTION_I

1	a)	List the main components of ecosystem and its function.	[10M]
	b)	Mention type of cycles we have in an ecosystem. Explain how water circulates on earth.	[4M]
		OR	
2	a)	Discuss the significance of food chains and food webs with relevant examples.	[8M]
	b)	What is biomagnification? Explain biomagnification with an example. SECTION-II	[6M]
3	a)	What are natural resources? Classify.	[4M]
	b)	Explain how water becomes a renewable resource. What are the effects of	[10M]
	,	over exploitation of water resources?	
		OR	
4	a)	Write a note on non-renewable energy resources. Explain how almost	[10M]
		every source of energy has its limits.	
	b)	What changes would you incorporate in your life-style in a move towards a	[4M]
		sustainable use of our resources?	
		SECTION-III	
5	a)	Define Biodiversity. Describe the various threats to Biodiversity	[7M]
	b)	What is the value of biodiversity? Summarize consumptive use value,	[7M]
		social value, ethical value and aesthetic value of biodiversity.	
		OR	
6	a)	Explain hot spots of biodiversity and mention three hot spots found in	[10M]
		India. Discuss their salient features.	
	b)	Explain how the study of biodiversity is beneficial to human life?	[4M]
_		<u>SECTION-IV</u>	
7	a)	Describe the major sources, causes effects and control measures for air	[10M]
	• 、	pollution.	F (3) (3)
	b)	What adverse effects can solid wastes cause? Discuss how the solid waste	[4M]
		can be managed.	
O	-)		
δ	a)	Enumerate any five major categories of water pollutants, their sources and effects.	[8M]
	b)	What is ozone layer and what are ozone depleting substances? Why is it	[6M]

getting depleted?

- a) Define sustainable development. What are the threats and strategies for [10M] sustainable development? b) What is meant by protocol? What are the results of implementation of the [**4**M]
 - Montreal protocol?

OR

a) Discuss the salient features of Environmental protection Act, 1986.	[8M]
b) Write a short note on Environmental management plan.	[4M]
c) What is earth summit?	[2M]

10

9

Code	No: R17A0502	
MA	Autonomous Institution UCC Cost of India)	GY
I	(Autonomous Institution – UGC, Govi. of India) I B Tech II Semester Supplementary Examinations April/May 2010	Q
1	Object Oriented Programming through C++	,
	(Common to All Branches)	
	Roll No	
Time:	3 hours Max. Marks: 70	
Note:	This question paper Consists of 5 Sections. Answer FIVE Questions, Choosing ONE on from each SECTION and each Question carries 14 marks	
Questio	***	
	SECTION-I	
1	a)What are the features of object programming language?	[7M]
	b)Write a C++ Program to reverse of an integer?	[7M]
_	OR	
2	a) How do variable declare and initialization performed in C++? Explain with	[7M]
	b) Write program to find whether the given number is strong number or not.	[7M]
	Section-II	[,]
3	a)Define inline function? Write a program for finding the area of a triangle using	[7M]
	inline functions.	[7]]
	b) what are classes? Create a class with the following data members? Name of the class: Vehicle Data members: name model company Price and	
	variants, Member functions: putdetails() and getdetails() to set and display	
	Vehicle details respectively?	
	OR	
4	Explain about the static data members and static member functions with example	[14M]
	SECTION-III	
5	Write a C++ program to implement parameterized constructor	[14M]
	OR	
6	Explain about the multiple Inheritance with an example program.	[14M]
7	<u>SECTION-IV</u> What is an everlanding? Write a C++ program illustrating Overlanding	[1/IN/I]
/	binary operators?	
	OR	
8	Write short notes on compile time polymorphism, run time polymorphism and	[14M]
	write a C++ program to implement virtual functions	
9	<u>BECTION-V</u> What is an Exception? Explain about try, throw and catch with example?	[14M]
,	OR	「▼⊣™Ţ
10	Write a program to catch multiple exceptions thrown from a single try block?	[14M]

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R17 Code No: R17A0201 MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India) I B.Tech II Semester Supplementary Examinations, April/May 2019 **Electrical Circuits** (EEE, ECE, CSE & IT)

		Roll No											
Time:	3 hours		1 1	1	I					Μ	ax. I	Marks: 70	
Note:	This questi	on paper Consists	of 5	Sectio	ns. Ans	swer	FIV	EQ	uesti	ons,	Cho	osing ONE	
Questio	on from eac	h SECTION and e	each (Questi	on carr	ies 14	4 ma	rks.					

				SEC	TION	<u>-I</u>							
1	(a) Derive	the equation for e	energy	y store	d in the	e cap	acito	or and	d Ind	lucto	or		[14M]
	(b) Write	short notes on type	es of	source	s. Shov	ving	their	sch	emat	ic sy	mbc	ols	
					OR								
2	(a) Explai	n in detail the V-I	relat	ions of	f circui	t elei	nent	S					[14M]
	(b) Explai	n Kirchhoff's Lav	VS										
				SEC	TION-	II							
3	(a) Calcu	late the current	in th	e 500	2	F	ia.	1	20Ω				[14M]
	resist	or in the networ	k sho	own i	n				$\underline{\mathcal{M}}$				
	the fig	g.1 using mesh an	alysis	5			30			40	Ω		
						-	\sim	V	-	\sim			
	(b) What	are the proper	rties	of a	n		\frown	7 <	\geq 50	0	¥		
	incide	ence matrix an	d c	ut se	et	\leq	50Ω	▼ < >^/	<u>ິ</u> ດ	<u>10</u>	\leq		
	matri	x?				\int	10	$\frac{1}{2}$	⊥ ⊤ 50	ע אר	\geq		
								υv					

OR

- (a) Explain the nodal analysis with an example? 4
 - (b) Write the incidence matrix of the oriented graph given below.

SECTION-III

- (a) A circuit consists of a series connected resistance of 10 ohms a capacitance of [14M] 150µ F and an inductance of 16mH connected across a supply of 100V at 50Hz. Evaluate (a) circuit current (b) power factor and (c) power consumed by the circuit. Draw the phasor diagram.
 - (b) Explain the average and R.M.S value?

5

[14M]

- 6 (a) Explain about series R-C circuit?
 - (b) Explain series RL circuit?

SECTION-IV

- 7 (a) Explain and derive maximum power transfer theorem?
 - (b) For the valve of R_L in fig. for Maximum power transfer and calculate the maximum power



- 8 (a) Explain the statement of superposition theorem?
 - (b) Using the superposition theorem, determine the voltage drop and current across the resistor 3.3 k Ω as shown in figure below



SECTION-V

- **9** (a) Explain self-inductance and mutual inductance?
 - (b) Explain about series aiding and series opposition of Inductors.?

OR

[**14M**]

[14M]

[14M]

R17

Code No: R17A0302 MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India)

I B.Tech II Semester Supplementary Examinations, April/May 2019 Engineering Drawing

(ME & AE)

	(-				
Roll No					

Time: 3 hours

Max. Marks: 70

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

SECTION-I

1 Draw a hypocycloid of circle of 4 cm diameter which rolls inside another circle of [14M] 20 cm diameter for one revolution and also draw a tangent and normal at a point 9 cm from the centre of the base circle.

OR

2 Construct a scale RF 1:40 read meters and decimeters and long enough to measure [14M] up to 6M. Mark on it a distance of a) 4.2 M b) 2.7 M on it.

SECTION-II

- **3** Draw the projections of following points on the same ground line keeping the **[14M]** projectors 25 mm apart
 - a. A in the HP and 20 mm behind the VP
 - b. B 40 mm above the HP and 25 mm in front of the VP
 - c. C in the VP. And 40 mm above the HP.
 - d. D 25 mm below the HP and 25 mm behind the VP.
 - e. E 15 mm above the HPand 50 mm behind the VP
 - f. F, 40 mm below the HP. And 25 mm infront of the VP
 - g. G, both in the HP& VP.

OR

4 A straight line PQ has its end P at 20mm above the H.P. and 30mm in front of [14M] V.P. and the end Q is 80mm above H.P. and 70mm in front of V.P. if the end projectors are 60mm apart. Draw the projections of the line. Determine its true lengths, true inclinations with the reference planes

SECTION-III

5 A circular plane with an 80mm diameter has one of the ends of the diameter in the [14M] HP. The surface of plane is inclined at 30° to the HP and end containing diameter is 60° to the VP. Draw its projections.

OR

6 A hexagonal pyramid having a base with a 30mm side and 80mm long axis, is [14M] freely suspended from one of the corners of the base. Draw its projections when its axis is parallel to the VP

SECTION-IV

7 Draw an isometric view of the frustum of a hexagonal pyramid having 35mm base [14M] side, 20mm topside and 80mm long axis, is resting on its base on the HP with an edge of the base parallel to the VP.

OR

8 A Sphere of radius 50 mm is kept centrally over a frustum of square pyramid of [14M] side 120 mm at the bottom, 80 mm at the top, and having a height of 100 mm. Draw the isometric projection of combined solid.

SECTION-V

9 Draw the isometric view of the casting whose front and top views afre shown in [14M] Fig. All dimensions are in mm.



OR

10 Draw the front view, top view and side view for the component shown in fig. All [14M] dimensions are in mm.

