



**Shri Shankaracharya Institute of Professional Management & Technology**

**Department of Electronics and Telecommunication Engineering**

Class Test – II Session-July-Dec, 2022 Month-February2023

Sem- ET&T 3<sup>rd</sup> Subject- Electronic Devices Code : B028312 (028)

Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt any 5 question. All questions carry equal marks.

Q. NO.	Questions	Marks	Levels of Bloom's taxonomy	COs
1.	Draw & explain the Common emitter Configuration. Also Draw its input output characteristics.	[8]	Apply	CO3
2.	Explain the construction & working of n-channel JFET. Also draw its characteristics	[8]	Understanding	CO4
3.	Explain the construction & working of enhancement MOSFET.	[8]	Apply	CO5
4.	List various bias compensation Technique & explain any two in brief.	[8]	Apply	CO3
5.	Compare JFET with MOSFET, Why MOSFET is called as Normally ON MOSFET?	[8]	Knowledge	CO5
6.	Compare JFET with BJT. Obtain the expression for the Pinch OFF voltage $V_f$ in case of n-channel JFET	[8]	Knowledge	CO4

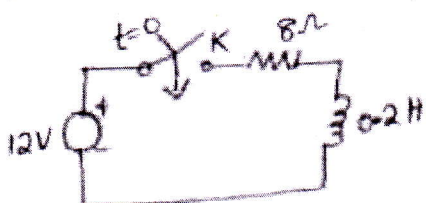
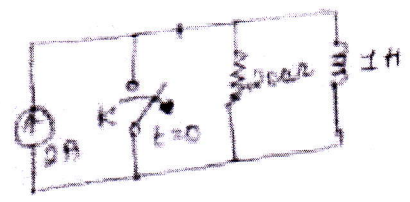
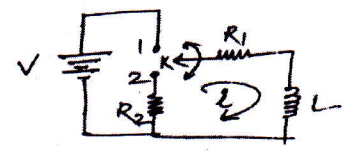
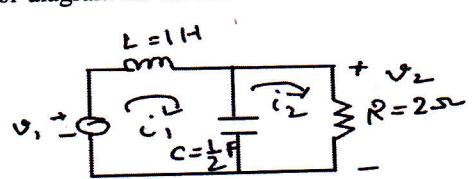
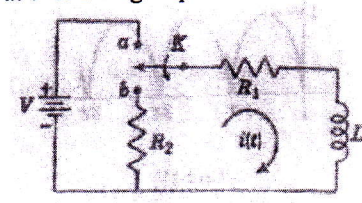
**"Success is the sum of small efforts, repeated day in and day out".**

**Shri Shankaracharya Institute of Professional Management & Technology**  
**Department of Electronics and Telecommunication Engineering**  
 Class Test – II Session- July. – Dec, 2022 Month- February  
 Subject- Network Theory - B000314(028)



Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt any 5 question. All questions carry equal marks.

Q. NO.	Questions	Marks	Levels of Bloom's taxonomy	COs
1.	Determine a) $i$ & $v$ at $t=0^+$ b) $di/dt, di^2/dt$ and $dv/dt, dv^2/dt$ at $t=0^+$ 	[8]	Applying	CO2
2.	Determine current through inductor at $t=0^+$ . 	[8]	Applying	CO2
3.	Determine the value of current flowing in the circuit, if switch changes its position from 1 to 2 at $t=0$ . 	[8]	Applying	CO2
4.	Design the phasor diagram for the network shown 	[8]	Applying	CO5
5.	Determine the value of current flowing in the circuit, if switch changes its position from a to b at $t=0$ . Using Laplace transform. 	[8]	Applying	CO3
6.	Determine Inverse Laplace transform of $F(s)=5(s^2+6s+7)/(s^2+4s+13)$	[8]	Applying	CO3



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Department of Electronics and Telecommunication Engineering

Class Test – II Session- July. – Dec, 2022 Month- Jan

Sem- ET&T 3rd sem Subject- Data Structure using C++ - B000315(028)

Time Allowed: 2 hrs Max Marks: 40

Note: - Attempt all question.

Q. NO.	Questions	Marks	Levels of Bloom's taxonomy	COs
1.	What is pointer?	[2]	Understanding	CO2
2.	What is abstract class?	[2]	Understanding	CO1
3.	Define, Virtual function and what is the need for virtual function?	[2]	Understanding	CO2
4.	Describe the making of a private member inheritance?	[3]	Remembering	CO1
5.	What is Stack and Queue, and what are the types of Queues?	[3]	Remembering	CO2
6.	What are the rules for operator overloading?	[4]	Understanding	CO1
7.	What is function overloading?	[4]	Understanding	CO1
8..	Define Sorting, and what are the types of sorting?	[4]	Understanding	CO2
9.	What is operator overloading, also explain the different types of operator overloading?	[8]	Understanding	CO1
10.	What is Inheritance, Encapsulation, polymorphism and abstraction with example?	[8]	Remembering	CO1



**Shri Shankaracharya Institute of Professional Management & Technology**

**Department of Computer Science & Engineering**

Class Test – II Session – July – Dec 2022 Month - January

Semester – CSE (AD), ET & IT III Subject – Mathematics III Code – B000311(014)

Time Allowed: 2 Hours

Maximum Marks: 40

**Note: Solve Any 5 Questions**

Q. N.	Questions	Marks	Level of Bloom's Taxonomy	COs
1.	Solve the partial differential equation $px(z - 2y^2) = (z - qy)(z - y^2 - 2x^3)$ .	[8]	Applying	CO2
2.	Solve the homogeneous partial differential equation $\frac{\partial^3 z}{\partial x^3} + \frac{\partial^3 z}{\partial x^2 \partial y} - 6 \frac{\partial^3 z}{\partial y^3} = y \cdot \text{Cos}x$	[8]	Applying	CO2
3.	Using method of separation of variables solve $3 \frac{\partial u}{\partial x} + 2 \frac{\partial u}{\partial y} = 0$ $u(x,0) = 4e^{-x}$	[8]	Applying	CO2
4.	(i) Prove that $\int_0^{\infty} \frac{e^{-t} \sin^2 t}{t} dt = \frac{1}{4} \log_e 5$ . (ii) Evaluate $L \left\{ t \int_0^t \frac{e^{-t} \sin t}{t} dt \right\}$ .	[4+4]	Applying	CO3
5.	(i) Evaluate inverse Laplace transform of $\frac{s+2}{s^2-4s+13}$ . (ii) Find the inverse Laplace transform of $\tan^{-1} \left( \frac{2}{s^2} \right)$ .	[4+4]	Applying	CO3
6.	Solve the given equation using Laplace transform $ty'' + 2y' + ty = \cos t, \quad y(0) = 1$ .	[8]	Applying	CO3



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**Department of Electronics and Telecommunication Engineering**  
Class Test – II Session- July-Dec, 2022 Month- February  
Sem- ET&T+IT+CSE(AI) 3<sup>rd</sup> Subject- Digital System Design- B000313(028)  
Time Allowed: 2 hrs Max Marks: 40

**Note: - Attempt any 5.**

Q. NO.	Questions	Marks	Levels of Bloom's taxonomy	COs
1.	Design MOD-8 asynchronous up counter. If the output frequency is 11 kHz what is the clock input?	[8]	Design	CO4
2.	Explain CMOS Logic. Design the followig boolean expression $Y = (A+B+CD)'$	[8]	Apply	CO5
3.	Convert RS F/F to JK F/F.	[8]	Apply	CO3
4.	Explain Charecteristics of IC's.	[8]	Understanding	CO5
5.	Explain TTL Logic for family 3 input NAND gate .	[8]	Design	CO5
6.	Design a sequence genrator using T F/Fs. $0 \rightarrow 1 \rightarrow 7 \rightarrow 4 \rightarrow 2 \rightarrow 0$	[8]	Design	CO3



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Sem- ET&T+IT+CSE(AI) 3<sup>rd</sup> Subject- Digital System Design- B000313(028)  
Time Allowed: 2 hrs Max Marks: 40

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5.	Explain TTL Logic for family 3 input NAND gate .	[8]	Design	CO5
6.	Design a sequence genrator using T F/Fs. $0 \rightarrow 1 \rightarrow 7 \rightarrow 4 \rightarrow 2 \rightarrow 0$	[8]	Design	CO3