

Seat No. : _____

MG-109

May - 2018

B.Sc., Sem.-IV

CC-205 : Electronics

Time : 3 Hours]

[Max. Marks : 70

- Instructions :**
- (1) All questions are compulsory.
 - (2) All questions carry equal marks.
 - (3) Symbols used have definite meanings.

1. (a) What is Inverse Laplace Transformation ? Explain it in detail. 7

OR

Explain Heaviside's partial function expansion theorem.

(b) Explain Response of Series R-L Circuit to Exponential Driving Voltage. 7

OR

Explain Response of Series R-L-C Circuit to Exponential Driving Current.

2. (a) Explain evaluation of Fourier Co-efficients. 7

OR

Explain Spectrum Envelope for a Recurring Pulse.

(b) Discuss Impulse Function and Function $f(t)=1$ with respect to Fourier Transform. 7

OR

Give the relationship of Laplace and Fourier Transforms.

3. (a) Explain Clocked RS flip-flop with Logic diagram, Symbol & Truth Table. 7

OR

Explain Edge-Triggered JK flip-flop with Logic diagram, Symbol & Truth Table.

(b) Explain JK Master-Slave Flip-Flops with Logic diagram, Symbol & Truth Table. 7

OR

List the types of Registers. Explain Serial In-Serial Out shift registers.

4. (a) Explain primary operations performed by microprocessor. Define address bus & data bus. 7

OR

Discuss Memory Classification in detail.

- (b) Compare Peripheral-Mapped I/O with Memory-Mapped I/O. 7

OR

Explain Example of a Microcomputer System with block diagram.

5. Answer the following : 14

- (1) Define : Laplace transform.
- (2) Write the Laplace of t^n .
- (3) Give the Laplace transform of $\cos \omega t$.
- (4) Write equation for unit step function.
- (5) Fourier transform is nothing but the Fourier _____.
- (6) The function having halfwave symmetry is given by $f(t) =$ _____.
- (7) For any even function $f(t)$, the even part f_0 is equal to _____.
- (8) What do the letters R and S stand for in the term "RS latch" ?
- (9) Bistable multivibrator is another term for an _____ flip-flop.
- (10) What does an entry X mean in a flip-flop truth table ?
- (11) An electronic circuit that has two stable states is called _____.
- (12) In 8085 MPU, address bus is group of _____ lines.
- (13) The eight data lines enable the MPU to manipulate 8-bit data ranging from _____ to FF.
- (14) The _____ is a logic circuit that amplifies the current or power.