SSR DEGREE & PG COLLEGE (AUTONOMOUS) NIZAMABAD
M.SC. PHYSICS
SEM – II INTERNAL – II
ELECTRONICS - 2
QUESTION BANK

I. Multiple Choice

1. A counter is a

a) Memory device

b) Sequential circuit

c) Combinational circuit

d) Amplifier

Answer: b) Sequential circuit

2. Which counter counts in binary sequence?

a) Ring counter

b) Binary counter

c) Johnson counter

d) Shift counter

Answer: b) Binary counter

3. A mod-10 counter is also called

a) Binary counter

b) Decade counter

c) Ring counter

d) Up counter

Answer: b) Decade counter

4. Ripple counter is also known as

a) Synchronous counter

b) Asynchronous counter

c) Ring counter

d) Down counter

Answer: b) Asynchronous counter

5. In a synchronous counter, all flip-flops are triggered by

a) Different clocks

b) External pulses

c) Same clock pulse

d) Output pulse

Answer: c) Same clock pulse

6. MOD number of a counter indicates

a) Number of flip-flops

b) Counting speed

c) Number of states

d) Frequency

Answer: c) Number of states

7. A 4-bit binary counter has how many states?

a) 4

b) 8

c) 16

d) 32

Answer: c) 16

8. Ring counter uses

a) Capacitors

b) Shift registers

c) Resistors

d) Diodes

Answer: b) Shift registers

9. Which counter can count upward and downward?

a) Ring counter

b) Johnson counter

c) Up-down counter

d) Ripple counter

Answer: c) Up-down counter

10. Counter circuits are mainly used for

a) Amplification

b) Timing and counting

c) Rectification

d) Oscillation

Answer: b) Timing and counting

11. ADC converts

a) Digital signal to analog signal

b) Analog signal to digital signal

c) AC to DC

d) DC to AC

Answer: b) Analog signal to digital signal

12. The output of ADC is in

a) Decimal form

b) Binary form

c) Analog form

d) Sinusoidal form

Answer: b) Binary form

13. Which ADC is the fastest?

a) Counter type ADC

b) Dual slope ADC

c) Flash ADC

d) Successive approximation ADC

Answer: c) Flash ADC

14. Resolution of ADC depends on

a) Input voltage

b) Number of bits

c) Frequency

d) Power supply

Answer: b) Number of bits

15. Quantization error occurs in

a) DAC

b) Oscillator

c) ADC

d) Amplifier

Answer: c) ADC

16. Successive approximation ADC uses

a) Comparator

b) Counter

c) Shift register

d) Encoder

Answer: a) Comparator

17. Higher resolution ADC gives

a) Lower accuracy

b) Better accuracy

c) Lower speed

d) Higher noise

18. Answer: b) Better accuracy

ADC is commonly used in

a) Digital voltmeters

b) Loudspeakers

c) Rectifiers

d) Motors

Answer: a) Digital voltmeters

19. The full form of ADC is

a) Automatic Digital Converter

b) Analog to Digital Converter

c) Analog Data Controller

d) Automatic Data Converter

Answer: b) Analog to Digital Converter

20. In ADC, sampling is required for

a) Continuous signals

b) Analog signals

c) Digital signals

d) AC signals only

Answer: b) Analog signals

II. Fill in the blanks

1. A counter is a ____ circuit.

Answer: sequential

2. A counter that counts from 0 to 9 is called a ____ counter.

Answer: decade

3. In a synchronous counter, all flip-flops receive the ____ pulse simultaneously.

Answer: clock

4.Ripple counter is also called an ____ counter.

Answer: asynchronous

5. A 4-bit binary counter has ____ possible states.

Answer: 16

6. Counters are mainly used for ____ and timing operations.

Answer: counting

7. Ring counter is constructed using ____ registers.

Answer: shift

8. An up-down counter can count in ____ directions.

Answer: both

9. MOD of a counter indicates the number of ____.

Answer: states

10. Flip-flops are the basic building blocks of ____.

Answer: counters

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III. Descriptive Question

1. Draw the block diagram of decade counter

2. Draw the block diagram of R -2R ladder network DAC

3. Explain successive approximation ADC

4. Draw the architecture of 8085 microprocessor

5. Classify instruction set of 8085 microprocessor