CG-11-2020
WINTER EXAM 2020
Subject Name : RB-29_PHYSICS - Digital & Communication Electronics-XV (CBCS) OR_VI_19-03-2021

Date : 19/03/2021 Duration : 60 min.

Instruction / सुचना / :-

* Follow the detail instructions given on OMR Sheet
* ओ एम आर वरील सर्व सूचनांचे पालन करावे.

Q.1
Base of Binary number system is .....
A]8 C]2
B]10 D]16

Q.2
Weight of 5 in adeeimal number 3528 is.
A]100 C]10
B]1000 D]1

Q.3
Decimal equivalent of $(1010)_2$ = ...
A) 8
B) 10
C) 20
D) 100

Q.4
1's complement of binary number $(1001)_2$ is...
A) 1001
B) 1100
C) 1010
D) 0110

Q.5
$(1001)_2 + (1100)_2$ = ...
A) 11001
B) 10101
C) 11100
D) 10100

Q.6
$(108)_{10}$ = (.....)$_8$
A) 152
B) 151
C) 154
D) 157

Q.7
Hexadecimal equivalent of $(10101101)_2$
A) A.D
B) BC
D) B.D
D) AC

Q.8
$(11110011)_2$ = (?)$_{Gray.}$
A) 10010011
B) 10011100
C) 10001010
D) 10001111

Q.9
$(54)_{10}$ = (.....)$_{Ex\text{-}3}$
A) 57
B) 10000111
C) 87
D) 10110111

Q.10
$(0011)_2 - (0010)_2$ = (.....)$_2$
A) 0001
B) 1000
C) 1010
D) 0100

Q.11
If both inputs are low the output of OR-gate is
A) High
B) 1
C) ∞
D) Low

Q.12

The symbol of NOT Gate is

A)

B)

C)

D) 

Q.13

If both the inputs of AND gate are high then output is .....

A) Low
B) 0
C) High
D) ∞

Q.14

In Ex-NOR gate when two inputs are high the output is...

A) Low
B) Zero
C) High
D) ∞

Q.15

Logical expression for two input NOR-Gage is..

A) $\overline{A+B}$

B) $\overline{A}+\overline{B}$

C) $\overline{A}.\overline{B}$

D) $\overline{A}.\overline{B}$.

Q.16

According to Rate of Boolean algebra $A+\overline{A}=$ .....

1) 1
B) 0
C) A
D) $\overline{A}$

Q.17

According to Demorgans theorem $\overline{A+B+C+D}=$ .....

A) $\overline{A}+\overline{B}+\overline{C}+\overline{D}$
B) $A+B+C+D$
C) $\overline{A+B}+\overline{C}+\overline{D}$
D) $\overline{A}.\overline{B}.\overline{C}.\overline{D}$

Q.18

In Boolean algebra A . 1 = ...

A) 0
B) A
C) 1
D) $\overline{A}$

Q.19

The number of cell's in a 4 variable K-map is ...

A]4
B]8
C]16
D]12

Q.20

$(A+B)(A+C)=$ .....

A) $A+B$
B) $A.BC$
C) $A+BC$
D) $A.\overline{BC}$

Q.21

In F.M. ..... of carrier is changed according to modulating signal.

A]Amplitude
B]Frequency
C]Wavelength
D]Phase

Q.22

$ec = Ec\ Cos\ (Wct+\theta)$ is an expression for carrier frequency where . θ - is .....

A) amplitude
B) frequency
C) voltage
D) phase angle

Q.23

In A.m, lower sideband power is = ...

A) $\frac{k\,m^2a\,E^2c}{4}$

B) $\frac{K\,m^2a\,Ec}{2}$

C) $\frac{K\,ma\,Ec}{2}$

D) $\frac{K.\,MaE^2c}{4}$

Q.24
In AM Total power = ...
A]2/3 carrier power
B]3/2 carrier power
C]2 carrier power
D]3 carrier power

Q.25
Demodulation is the process in which ..... is recovered in the reciving equipment
A]carrier signal
B]modulating signal
C]modulated signal
D]phase

Q.26
In A.M. ..... of carrier remains unchanged.
A]amplitude
B]phase
C]frequency
D]frequency & phase

Q.27
In detection of modulating signal from A.M. ware ..... is used.
A]Varactor diode
B]Photo diode
C]Junction diode
D]Zener diode

Q.28
A carrier frequency of 1200 kH_z is modulated by Audio Signal of 10 KHr. The frequency of L.S.B. is .....
A) 1190 KH_z
B) 1210 KH_z
C) 1200 KH_z
D) 10 KH_z

Q.29
The expression for deviation Ratio in F.M. is δ = ...

A) $m_f \frac{\omega_c}{\omega_m}$

B) $\frac{m_f}{\omega_c}$

C) $m_f \frac{\omega_m}{\omega_c}$

D) $\frac{m_f}{\omega_m}$

Q.30
Amplitude of U.S.B. in AM wave is ...

A) $ma \frac{Em}{2}$

B) $ma \frac{Ec}{2}$

C) $ma \frac{\omega m}{2}$

D) $ma \frac{\omega c}{2}$

Q.31
In basic communication system electrical equivalent of the information is reformed to a suitable form by .....
A]Reciver
B]Rectifier
C]Transducer
D]Transmitter

Q.32
Noise is .....
A]wanted signal modulated by transmitter
B]frequency modulated signal
C]unwanted signal added to transmitted
D]All of the above

Q.33
The drawback of T.R.F. reciver is
A]variation in band width
B]sufficient selectivity
C]stability of gain
D]Image frequency rejection

Q.34
In superheterodyne Radio Reciver ..... is a D.C. voltage given to IF & R.F. stages
A]Audio power
B]A.G.C.
C]F.M
D]P.M.

Q.35
Ability of Radio Reciver to reject unwanted signals is .....
A]sensitivity
B]fidelity
C]Image freuency
D]selectivity

Q.36
The fidelity curve of reciver should be ..... over wide range of audio frequency.

A]flat
B]narrow
C]sharp
D]Smooth

Q.37
The frequency response characteristic of I.F. Amplifier determine ..... of a Radio Reciver.
A]sensitivity
B]selectivity
C]fidelity
D]Image frequency

Q.38
A radio reciver is tuned to frequency 800 kHr. If I.F. of the reciver is 455 KHz. then local oscillator frequency is ..... KHz.
A]1200
B]1250
C]1255
D]345

Q.39
If two recivers A & B have sensitivities 10 μv & 12 μv respectively then ..... is more sensitive reciver.
A) B
B) Either A or B
C) A
D) None of the above

Q.40
In Radio Reciver Audio Amplifier is used to amplify ..... signal from detector.
A]Carrier signal
B]R.F.
C]A.M.
D]Modulating signal