Test Paper – VI

1. At a frequency below the resonant frequency series circuit is-a.) Inductive b.) Capacitive
c.)Resistived.)None
2. The electrical conductivity of metals is typically of the order of (Ohm –1 m-1) a.) 107
b.)105
c.)10-4
d.)10-6

3. The output of a piezoelectric crystal has
a.)Low amplitude and low impedance
b.)High amplitude and high impedance
c.)Low amplitude and high impedanced.)High amplitude and low impedance

4. The time constant associated with the capacitor charging in the circuit shown in the given figure is –
a.)6ms
b.)10ms
c.)15msd.) 25ms

1.   5. The Q factor of an inductor would be higher if it is made of – a.) Thinner wire b.) Longer wire c.) Shorter wire d.) Thicker wire
2.   6. A cavity resonator can be represented by – a.) An LC circuit b.) An LCR circuit c.) A lossy inductor d.) A lossy capacitor
3.   7. Air gap in the iron core of an inductor prevents – a.) Core saturation b). Hysterisis loss c.) Flux leakage d.) Transformer action
4.   8. Between the plates of an air capacitor if a glass slab is slipped without moving the plate then

a.) Its capacitance is decreased b.) Its
capacitance is increased c.) Its capacitance is
hardly affected
d.)Capacitor is discharged
1.   9. For current to flow, a circuit must be – a.) Isolated b). Insulated c.) Complete d.) Protected
2.   10. Human ear can detect sound intensities of the order of – a.) 10-20 w/m2 b). 10-13 w/m2 c.) 10-6 w/m2 d.) 10-3 w/m2
3.   11. A FET operates on – a). Majority carriers only b). Minority carriers only c). Positively charged ions only d.) None
4.   12. An SCR can conduct for a full half cycle or any part of it –

a.)and continue conduction for other half cycle b.) but blocks the conduction for other half cycle c.) nothing can be said d.) none

13. In CRT aquadag carries
   .a.)aqueous solution of graphite
   .b.)sweep voltage
   .c.)secondary emission electronsd.) none of the above

14. From the following circuit, in order to obtain a 12-v stabilized supply the input to the terminals A and B should be -a.)less than 12v with terminal A positive with respect to terminal B
   .b.)greater than 12v with B positive with respect to A
   .c.)less than 12v with A negative with respect to B
   .d.)greater than 12v with A positive with respect to B

15. When the value of ICBO in a silicon transistor of b = 49 is 20 Na then the value of ICEO for a temperature rise of 180c would be –
   .a.)8mA
   .b.)160 hA
   .c.)1mA
   .d.)7.84mA

16. MOSFET can operate in –
   .a.)Depletion mode
   .b.)Enhancement mode
   .c.)Depletion-only mode
   .d.)Both a & b

1.   17. For a circuit design the very factor of an SCR, which is to be taken into account is –
a.)
d.) None

2.   18. The functions of an oxide layer in an IC device is to –
a.) mask against diffusion or ion implant
b.) insulate the surface electrically
c.) produce a chemically stable protective layer
d.) all the above

3.   19. One of the following bipolar transistors which has the highest current gain bandwidth product for similar geometry is –
a.) NPN germanium transistor
b.) NPN silicon transistor
c.) PNP germanium transistor

d.)PNP silicon transistor.BSNL GE JTO Recruitment Question Paper previous years free download here.. 2006
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20. With the increasing temperature, the electrical conductivity would –
a.) Increase in metals as well as in intrinsic semiconductors.

b.) Increase in metals but decrease in intrinsic semiconductors.

.c.)Decrease in metals but increase in intrinsic semiconductors.

.d.)Decrease in metals as well as in intrinsic semiconductors.

21. For the following circuit, the current X is 3A then the power delivered by the dependent current source D is –
a.) 50 watts
b) 50 watts

.c.)1500 watts
.d.)15000 watts

1.   22. The current in resistor R shown in the fig. will be –
a.) 0.2A
b.) 0.4A
c.) 0.6A
d.) 0.8A

2.   23. In the network shown in the given fig. the capacitor C1 is initially charged to a voltage V0 before the switch S in the circuit is closed. In the steady state-
a.)C1 and C2 are charged to equal voltages
b.) C1 and C2 are charged with equal coulombs

.c.)C1 and C2 are discharged fully
.d.) C2 alone is charged to voltage V0

1.   24. The equivalent circuit of a wire-wound resistor can be represented as –

2.   25. For the fig. shown the fundamental cutset for the branch 12 is –

.a.)2, 1, 5
.b.)2, 6, 7, 8
.c.)2, 1, 3, 4,5
.d.)2, 3, 4

26. Ideally, attenuator pads should not change –
a.)voltage levelb.) impedance level c.) power level d.) voltage, power or impedance level
1.   27. When the two networks are cascaded through an ideal Buffer and if tr1 and tr2 are the rise times of the two networks, then the overall delay of the two networks together will be –
2.   28. For the network shown in the following fig. one of the following theorems which can be conveniently used to calculate the power consumed by the 10W resistor is –

.a.)Thevenin's theoremb.) Maximum power transfer theorem c.) Millman's theorem d.) Superposition theorem 29 The nodal analysis is primarily based on the application of –
.a.)KVLb.) KCL c.) Ohm's law d.) Both b and c

1. 30. When the driving point impedance of a network at a frequency of 1Hz is then the impedance can be realised as –
2. 31. For a lossless line

1. 1. Series resistance is zero 2. Shunt conductance is zero
2. 3. Shunt conductance is infinite 4. Series resistance is infinite

.a.) 1 & 2
.b.)2 & 3
.c.) 2 & 4d.)3 & 4

32. When a square wave is fed to an RC circuit then-a.) Voltage across R is square and across C is not square b) Voltage across C is not square and across R is not square
.c.) Voltage across both R and C are square
.d.)Voltage across both R and C are not square

33. When an A.M. broadcast radio transmitter radiates 10 kw power when the modulation percentage is 60 then the power of the carrier is-
a.) 5.00 kwb.) 7.69 kw c.) 8.47 kw d.) 9.17 kw
34. The main components of atmosphere responsible for absorption of em waves are
.a.) Nitrogen and Oxygen
.b.)Nitrogen and hydrogenc.) Oxygen and water vapour
.d.)Nitrogen and water vapour

35. The effective height of a linear antenna of length 'l' is say 'x' when the current distribution along it's length is uniform and say, it is 'y' when the current distribution is sinusoidal then x/y is equal to -
a.) 2 b.) 1
c.) 4/ pd.) p/4
36. In a hollow rectangular waveguide, the phase velocity a.) Increases with increasing frequency
b.)Decreases with increasing frequency
c.)Is independent of frequencyd.)Will vary with frequency depending upon the frequency range

1. 37. For TM waves in a parallel plate waveguide, the minimum attenuation arising from imperfect conductors would occur at a frequency of (fc is the cut–off frequency)a.) 3fc *
2. 38. When a transmission line having 50 impedance is terminated in a load of (40 + j30) W then the VSWR is – a.)j 0.033 b.)0.8 + j 0.6 c.) 1 d.)2
3. 39. The ionosphere plays a significant role in radio wave propogation at-a.)High frequencies b.)Ultra-high frequencies

c. Microwave frequenciesd.)Optical frequencies
40. When a carrier wave is modulated at 100% it's power is increased by-
.a.)100%
.b.)150 %
.c.)50%d.) 0%

41. Reluctances in series are –
a.)Subtractiveb.) Additive c.) Multiplicative d.) None.

42. When the meters X and Y requires 40 mA and 50 mA respectively for full scale deflection then –
a.)X is more sensitiveb.) Y is more sensitive
c.)both are equally sensitived.) not possible to determine from the given data.

1.   43. In the context of ac bridge measurement the term "Wagner Ground" means –
a.) a special RC connection that eliminates stray magnetic effects.
b.) any unwanted and unintended ground connection.
c.) a large metal plate buried in the ground and connected to one corner of the bridge.
d.) a special RC connection that eliminates stray capacitance effects.

2.   44. The gating and counting circuits of a digital counter –

   .a.)cannot handle MHz signalsb.) cannot handle GHz signals

   .c.)can handle GHz signalsd.) none.

45. De- sauty bridge is more widely used because of –

   .a.)simplicity
   .b.)perfect balance for imperfect capacitors
   .c.)perfect balance for air capacitors
d.) maximum sensitivity.

46. A schottky diode clamp is used along with a switching BJT for –

   .a.)reducing the power dissipation.
   .b.)reducing the switching time
   .c.)increasing the value of bd.) reducing the base current.

47. The phenomenon of creeping occurs in –

   .a.)Energy metersb.) Ammeters

   .c.)Wattmeter
   .d.)Voltmeters

48. A permanent magnet moving coil measures the –

   .a.)true rms valueb.) dc value
c.) peak value

49. The D`Arsonval meter movement can be converted into an audio frequency ac
ammeter by adding to it a
   .a.)thermocoupleb.) rectifier
c.) chopper

   .d.)transducer

50. Which one of the following detectors is generally used in ac bridges for audio frequency
range ?

   .a.)Ac voltmeter
   .b.)CRO
   .c.)Headphonesd.) Vibration galvanometer.

       51. In single phase circuit capacitor used for power factor correction decreases –

       a.) The power factor b.) The line current c.) Both a and b d.) The line current and increases
power factor
2.   52. In the given figure X the balanced bridge should be
style="height: 48236; left: 16; position: absolute; width: 528; z-index: 2; mso-ignore:
vglayout; top: 13795; margin-left: 168px; margin-top: 78px">
self-inductance having resistance

   .b.)A capacitance
   .c.)A non-Inductive resistance

   .d.)An inductance and a capacitance in parallel

53. SiO2 layer in an integrated circuit provides –

   .a.)Electrical connection to external circuitb.) Physical strength

   .c.)Isolation
   .d.)Conducting path

54. For an SCR with turn on time of 5 microsecond, an ideal trigger pulse should have-

   .a.)short rise time with pulse width = 3 m sec
   .b.)vlong rise time with pulse width = 6 m sec
   .c.)short rise time with pulse width = 6 m secd.)long rise time with pulse width = 3 m sec

55. In a 3-phase half wave diode rectifier, the ratio of average output voltage to per phase

maximum a c voltage is-
a) 0.955

.b.)0.827c.) 1.654

.d.)1.169

56. In multiple pulse modulation used in PWN inverters, the amplitude and frequency for triangular carrier and square reference signals are respectively 4V, 6 KH2 and 1V, 1KH2.
The number of pulses per half cycle and pulse width is respectively-.

.a.)6, 900
.b.)3, 450
.c.)4, 600d.) 3, 400

57. A four quadrant operation requires-

a.)two full converters in series.b.) two full converters connected back to back.
c.) two full converters connected in parallel.
d.) two semi converters connected back to back
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58. In voltage source inverters-

.a.)load voltage waveform o depends on load impedance z, where as load current waveform io does not depend on z,

.b.)Both o and io depend on z,c.) o does not depend on z where as depends on z

.d.)both o and do not depend on z

59. For an RC driving – point impedance function, the poles and zeros-
a.)should alternate on real axis b.) should alternate only on the negative real axis c.) should alternate on the imaginary axis d.) can lie anywhere on the left half place.
60. The functions of connecting a resistor in series with gate - cathode circuit and a zener diode across gate cathode circuit are, respectively to protect the gate circuit from-a.) over voltages, over currents.
.b.)over currents over voltages.
.c.)over currents, noise signals
.d.)noise signals, over voltages.

61. The plate efficiency of a class C amplifier is high because-a.)A resonant circuit is used as load b.) The plate current flows when the instantaneous plate voltage is low.
.c.) The plate current flows only when grid is driven positive
.d.)None of the above

62. The circuit diagram shown in the figure consist of transistor is
    .a.) Parallel connectionb.) Cascode connection
    .c.) Darlington connection
    .d.)Cascade connection

63. Increase of current in one transistor in a direct coupled circuit
    .a.) Causes an increase in current in other transistors of the circuit
    .b.)Causes a decrease in current in other transistor
    .c.)Does not affect the currents of other transistors connected in the circuit
    .d.)May either increase or decrease currents of other transistors connected in the circuit.

64. In a PNP transistor the charge carriers in the base region which play an important role in the operation of the transistor are
    .a.) The majority carriersb.) The minority carriers
    .c.) Nothing can be said
    .d.)None of the above

65. Voltage gain in a CC amplifier is-
    .a.)Cannot exceed unity
    .b.)Is always constant
    .c.) Is dependent on input signal
    .d.)Depends on output impedance

66. Random-access-memory means –
    .a.)memory in a random fashion
    .b.)memory in a zigzag fashion
    .c.)memory in a circular fashion
    .d.)memory in a square fashion

67. BCD code is –
    .a.)an alphanumeric code
    .b.)a binary code

c .) the same thing as binary numbers
d.)non-weighed
68. The transfer function of a system is . The phase swift at w = 0 and w = a will be a.) 900 and –00
    .b.)-900 and 900
    .c.)-1800 and 1800
    .d.)None of the above

69. Number of resolutions in a 8 bit D/A converter is –
    .a.)8 bitb.) 4 bit
    .c.)6 bitd.) 10 bit

70. A bistable multivibrator is used as a – a.) Free running multivibrator b.) Frequency multiplier c.) Frequency divider

d.)Wave shaper

71. The transfer function of a system is The phase shift at w = o and w = will be –

   .a.)900 and -00
   .b.)–900 and 900
   .c.)–1800 and 1800
   .d.)none of the above.

72. A forward path transfer function of a unity feedback control system is equal to The unit step response of this system starting from rest will have its maximum value at a time equal to –

   .a.)0 sec
   .b.)0.56 sec
   .c.)5.6 secd.) infinity.

73. To obtain the output position in a position control system, which one of the following transducers is used-a.) Strain Gauge b.) Load cell

c.)Synchrod.) Thermistor

74. The maximum resonance peak for the second order transfer function T(S) = will be –

   .a.)4
   .b.)4/3
   .c.)2

75. Considering control system in the given fig .For slight variation in G, the ratio of open loop sensitivity to closed pool sensitivity will be given by-a.) 1: (1+GH) b.) 1 : (1+GH)-1

   .c.)1 : (1-GH)
   .d.)1 : (1-GH)-1

76 The diversity system in Troposcatter links is made use of to-

   .a.)Increase the bandwidthb.) Prevent noise effects
c.) Increase the directivity of the antenna.
d.) Detect signal in the presence of fading.

77.)Mark out wrong statement regarding compandora.) It compresses the higher amplitude parts of a signal before modulation and expands
them back to normal again after demodulation.
b.) It gives preferential treatment to the weaker parts of the signal
c.) For weaker signals, it gives a poor ratio of signal strength to quantizing error.

d.)Weaker signals, transverse more quantum steps than they would do otherwise and so quantizing error is reduced –

78. Among other equipment a sub marine cable repeater contains –
a.) A dc power supply and regulator

b.)Filters for the two directions of transmissionc.)
Multiplexing and demultiplexing equipment
d.) Pilot inject and pilot extract equipment

1.   79. In a communication system noice is most likely to affect the signal-
a.) At the transmitter
b.) In the channel
c.) In the information source
d.) At the destination

2.   80. The given circuit is a –
a.) Monostable multivibrator
b.) Frequency division circuit
c.) Miller sweeps circuit
d.) Bootstrap sweep circuit

3.   81. In a plane transverse electromagnetic wave-
a.) Angle between electric and magnetic vectors is O.
b.)Angle between electric and magnetic vectors is 900
c.) Angle between electric and magnetic vectors is 1800
d.) None of above.

4.   82. Directional coupler is a function of-
a.) Two port wave-guide
b.) Four port wove guide

c.)Single port wave-guide
d.) Size port wave-guide.

83. Isolators are used to couple generator and load because –
a.) It increases power of signal
b.) To match any load with generator

c.)To get phase shifted o/pd.) To differentiate
load & generator

84. In travelling wave tube for getting amplified output
  .a.)Electron beam travels and RF field remains stationary
b.) Both electron beam and RF field travels in same direction

  .c.)Both electron beam and RF field remains stationaryd.) RF field travels and electron beam
remains stationary

85. Crystal diode works on principle of –

  .a.)Negative resistance
  .b.)Positive resistance

  .c.)Square lowd.) Linear impedance

86. In gunn effect oscillator which mode having lowest operating frequency –

.a.)Domain mode
.b.)Delayed domain mode
.c.)Quenched domain mode
.d.)LSA mode

87. In Reflex klystron maximum energy transferred to gap by electrons-

.a.)eR
.b.)ee
.c.)el
.d.)eR , ee, el

88. The radio waves get absorbed by atmosphere depends –
a.) Their distance from transmitter is long
b.) Wave power is weak

c.)Improper polarization of waved.) Frequency of waves

89. 8085 mP has no of sets of communication lines-

.a.)2b.) 3
c.) 4

.d.) None

90. No. of o/p ports in peripheral mopped I/p are up to-
a.)32
b.) 64

c.) 128d.) 256

1.   91. Is two byte instruction-
a.) MOV A, B
b.) ANA B
c.) MV I B, 92 H
d.) LHLD 2050 H

2.   92. Banch instructions-

.a.) only uses flogs setting to make decision.
.b.)only sets flogs according to results.
.c.) uses flogs settings as well as sets flogs setting
.d.)nighteruse flog settings not set flogs.

93. What will be the time delay achieved from following loop
Loop DCX B 6 MOV A, C, 4 ORA B 4 JNZ Loop 10 system clock freg. = 2 MHz.
   .a.) 10 m sb.)12 m s c.) 14 m s
   .d. 16 m s

94. After execution of pop statement-
   .a.) Stack pointer decremented by 2b.) Stack pointer incremented by 2 c.) Stack pointer
decremented by 1
   .d.)Stack pointer incremented by 1

1.   95. Labels are used as an alternative fora.) Data b.) Register name c.) Memory address d)
Stack pointer
2.   96. Microprogramming is a technique-a) For programming the microprocessor b.) For
writing small programs efficiently

c.)For programming the control steps of computerd.) For programming o/p / i/p
97. 00110010 – 01000101 =? a.) 00010011
   .b.)11101101
   .c.)11100011
   .d.)11100100

98. When an array is possed as an argument to a function what exactly gets posseda.) Address of the
array
   .b.)Values of elements of arrayc.) Number of elements of array
   .d.)Address of the first element of the array

99. A write cycle time means-a.) Minimum length of write pulse b.) Minimum amount of time for
which data must be valid before write pulse end c.) Minimum time required between successive write
operation d.) Minimum time for which data must be valid after write pulse ends BSNL Recruitment /
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100. If three i/p of a gate are 1, 0, 1 then output is O the gate must bea.) NOT b.) AND c.) OR
d.)NAND.101. Inverting amplifier configuration using operational amplifier is –

102. Which logic family is most faster-a.) ECL b.) DCTL c.) RTL d) TTL 103. For getting positive
o/p from two i/p OR gate for positive logic-a.) both i/p must be positive b.) both i/p must be negative
c.) any one of i/p must be positive d.) undefined condition 104. Supercilious is –
   .a.)Harightyb.) High brow c.) Angry d.) Inane. 105. Give the synonym of 'moribund'-a.)
Undertaking b.) Burial c.) Leather bound d.) Dying 106. The convention was to end on May 13 with
a month long break in between. What do the two prepositions indicate? a.) Duration b.) Time c)
Direction d.) Position 107. According to the writer what influences our dreams-
   .a.)inner censorshipsb.) the stories
   .c.)the talesd) none. 108. Vaunted is – a.) Unvanquished b.) Fell. c.)Belittled d.) Exacting. 109.
The sun rays falls vertically on a.) Tropics b.) Doldrums c.) Poles d.) Equator 110. Trimurti is
associated with a.) Ellora

b.) Ajanta c.) Khajuraho d.) Elephant caves 111. In which year did the congress adopt "Poorna Swaraj" or complete independence as its goal? a.) 1930 b.) 1929 c.) 1928 d.) 1942 112. Director of CBI-a.) D.C Sharma b.) A. M Shrivastava c.) P.C Sharma d.) P.C Dole 113. Rajiv Gandhi khel Ratna award for the year 2001 goes to a.) P. gopichand b.) P. T Usha c.) Sachin Tendulkar d.) Gurpreet Singh 114. During which time is vist to Mecca treated as Haj? a.) Id-Ul-Fitr b) Id-ul-Zuha

.c.)Milad-un-Nabi d.) Any time 115. Of the 109 known metals, how many occur in nature and how many are produced synthetically in particle accelerators! a.) 79 and 10 b.) 80 and 29

.c.)95 and 14d.) None can be produced synthetically 116. Earth's average speed per second around the sun is a.) 30 km

.b.) 32 kmc.) 34 km d.) 35 km 117. Governor of Reserve Bank of India is a.) Bimal Jalan b.) C. Ranga Rajan

.c.)Rana Malhotra

.d.)S. Venkata Ramanan118. The first pope to enter a mosque in Damascus syria is a)Pope John Paul II b.) Pope John Paul I c.) Pope John Paul III

.d.)Pope John Paul V119. Uranium is found in the state of

a.) Orissa b.) A. P c.) Karnataka

.d.)Bihar120. Nuclear Power plant in Pakistan is located at-

.a.)Karachib.) Peshawar

.c.)Ellipsed.) Paraboloid