Test Paper – VII

1.   1. At a frequency below the resonant frequency parallel circuit is a) Inductive b) Capacitive c) Resistive d) None
2.   2. Which of the following are piezo-electric substances-a) Barium titanate b) Lead titanate c) Lead zirconate d) All the above
3.   3. The resolution of a logic analyser is a) The maximum number of input channels b) The minimum duration of the glitch it can capture c) The internal clock period d) The minimum amplitude of input signal it can display
4.   4. In a P-type semiconductor, the conductivity due to holes (=sp) is equal to (e=charge of hole, mp = hole mobility, P = hole concentration)-a) b) c) P.e. mp d)
5.   5. When a small amount of Cu is added to a Ni conductor, then the – a) Resistivity of Ni will decrease at all temperatures because Cu is better conductor than Ni b) Residual resistivity of Ni at low temperatures will increase as Cu atoms acts as defect centers c) Resistivity of Ni will increase at all temperatures as Cu destroys the periodicity of Ni and acts as defects d) Resistivity of Ni remains unaltered as Cu atoms give the same numbers of free electrons as Ni atoms
6.   6. A coil would behave as a) An inductor at high frequencies b) A capacitor at very low frequencies c) A capacitor at very high frequencies d) A resonator at high frequencies
7.   7. The law that induced emf and current always oppose the cause producing them was discovered by a) Maxwell b) Faraday c) Lenz d) Fleming
8.   8. A 'trimmer' capacitor is a variable capacitor used for a) 'Tunning up' a radio for best sensitivity b) Tunning a radio to different stations c) Changing the original capacitance by several hundred Pico farads d) Eliminating whistling in a transistor radio
9.   9. In panel wiring, solid wire is preferred to standard wire because it a) Can carry more current b) Can be shaped better c) Uses less chopper d) Has better insulation
10.   10. FET's have similar properties to – a) PNP transistors b) NPN transistors c) Thermionic valves d) Unijunction transistors
11.   11. The semiconductor strain gauge has gauge factor a) 2 b) 10 c) 100 d) 1000
12.   12. AE 139 is aa) Tunnel diode b) Germanium power transistor c) Photoconductive cell d) Silicon diode
13.   13. When a zener diode is used in a power supply its function is to maintain a constant a) Output voltage b) Input voltage c) Output current irrespective of the load resistance d) supply current
  .14. The value of g for a transistor in saturation is a) 0 b) 0.5
  .c) very near unity d) 0.25
14.   15. A DE MOSFET differs from a JFET in the sense that it has no – a) channel b) gate c) P-N junction d) substrate
15.   16. The gating pulse is removed after firing an SCR than the current in the SCR will – a) Remain the same b) Immediately fall to zero c) Rise up d) Rise a little and then fall to zero
16.   17. In the fabrication of an integrated circuit, the advantages of ion implantation over diffusion doping are that – a) Point imperfections are not produced b) Shallow doping is not possible c) It is a low temperature process d) Previous steps in fabrication are affected
17.   18. The alternate mode of a dual trace oscilloscope can be used for displaying – a) Any two waveforms b) Two waveforms of relatively high frequency c) Two waveforms of relatively low frequency d) One low frequency and one high frequency waveform
18.   19. Attenuator is a – a) pure resistance network producing a constant attenuation b) pure

resistance network producing a variable attenuation at variable frequencies c) pure resistance producing a constant attenuation at all frequencies d) pure resistance producing a constant attenuation at low frequencies

19.   20. The equivalent circuit of the following circuit is –

20.   21. For the lattice type attenuator shown in the given figure, the characteristic impedance R is –

21.   22. Thevenin's equivalent circuit of the network shown in the given figure, between terminals T1 and T2 is –

.23. One of the following combinations of open circuit voltage and Thevenins equivalent resistance which represents the Thevenins equivalent of the circuit shown in the given fig. is – a) 1V, 10W b) 1V, 1kW

.c) 1mV, 1kW d) 1mV, 10W

22.   24. In the following circuit, the effective resistance faced by the voltage source is – a) 1W b) 2W c) 3W d) 3.3W

23.   25. The equivalent circuit of a resistor is shown in the given fig. The resistor will be non-inductive if –

24.   26. One of the following which is a cut set of the graph shown in fig. is – a) 1, 2, 3 and 4 b) 2, 3, 4 and 6 c) 1, 4, 5 and 6 d) 1, 3, 4 and 5

25.   27. For which value of R the following circuit will deliver maximum to the terminals a and b is –

26.   28. In a coaxial cable, braided copper is used as a a) Conductor b) Shield c) Dielectric d) Jacket

27.   29. When the transmission loss for a 3 GHz microwave system over a certain distance is 130 dB and if the frequency is now doubled then the transmission loss will be – a) 136 dB b) 133 dB c) 127 dB d) 139 dB BSNL Recruitment / Placement Paper previous years for GE JTO Exam

28.   30. When two equal positive point charges are placed along X- axis at X1 and –X1 respectively then the electric field vector at a point P on the positive Y-axis will be directed a) In the +x direction b) In the –x direction c) In the +y direction d) In the –y direction

.31. With reference to the given figure, the signal picked up by the receiving antenna can be increased by increasing-a) he only b) hr only

.c) both he and hr d) neither he nor hr

29.   32. Which of the following antennas are frequency independent ?

1.   1. Folded dipole
2.   2. Half wave dipole
3.   3. Parabolic reflector
4.   4. Helical antennaa) 2 and 4
b) 3 and 4
c) 1,3 and 4
d) 1,2 and 3

1.   33. The reading of digital multimeter are –
a) very difficult
b) confusing
c) convenient
d) none

2.   34. One of the following which does not have the same units as the others –

3.   35. Shaft encoder is used for the measurement of –
a) angular position
b) linear position
c) linear velocity
d) linear acceleration.

4.   36. The materials used in switches, brushes and relays for electrical contact must possess –
a) high thermal conductivity and high melting point.
b) low thermal conductivity and low melting point.
c) high thermal conductivity and low melting point.
d) low thermal conductivity and high melting point.

5.   37. Capacitive transducer is superior to inductive type for the measurement of displacement because of –
a) absence of non-linearity
b) high frequency response
c) small size
d) high accuracy

6.   38. When a RLC series circuit has R=1ohm, L=1H and C = 1F then the damping ratio on the circuit will bea) more than unity
b) unity
c) 0.5
d) zero

7.   39. The sensitivity of an electromagnetic digital flow meter can be increased by increasing –
a) the circumferential width of rotor teeth b) the radial depth of rotor teeth c) the thickness of rotor teeth d) the number of teeth

8.   40. A moving iron instrument – a) is an unpolarised meter b) has not a fixed coil c) both a and b d) none

9.   41. A linear displacement transducer of the digital type generally uses – a) straight binary code b) BCD c) Gray code d) hexadecimal code

10.   42. The output open circuit voltage divided by the input current for a two port reciprocal network is equal to-a) B b) Z_{12} c) $1/y_{12}$ d) h_{12}

11.   43. The ac bridge shown in the given figure if balanced is Z_1 = 100 Ð300 Z_2 = 150Ð00, Z_3 = 250 Ð 400 and Z_4 is equal to – a) 375Ð700 b) 375Ð-700 c) 150Ð00 d) 150 Ð200

12.   44. The given figure represents the variation of electric field E – a) Due to a spherical volume charge $Q = Q_1 + Q_2$ b) Due to two concentric shells of charge Q_1 and Q_2 uniformly distributed over spheres of radii R_1 and R_2 c) Due to two point charges Q_1 and Q_2 located at any two points 'r' d) In a single spherical shell of charges Q uniformly distributed $Q = Q_1 + Q_2$

13.   45. In a SCR anode current flows over a narrow regain near the gate during-a) delay time tr b) rise time tr and spread time to c) td and t0 d) td and tr

14.   46. For a 3-phase six-pulse diode rectifier, the average output voltage in terms of maximum value of line voltage Vm is

15.   47. In an inverter with fundamental ouctput frequency of 50 Hz, if third harmonic is eliminated, then frequencies of other components in the output voltage wave in Hz would bea) 250, 350, 450, high frequencies

b) 50, 250, 350, 450
c) 50, 250, 350, 550
d) 50, 100, 200, 250.

16.   48. Number of SCRs in a 3 phase full converter working during overlap is-
a) 1 from positive group 1 from negative group
b) 2 from positive group 1 from negative group
c) 1 from positive group 2 from negative group
d) 2 from positive group 2 from negative group

17.   49. For a 3 phase bridge inverter in 1800 conduction mode. In the given fig the sequence
of SCR conduction in the first two steps beginning with the initiation of thyristor is-
a) 6, 1, 2, and 2, 3, 1
b) 2,3,1 and 3,4,5
c) 3,4,5 and 5,6,1
d) 5,6,1 and 6,1,2

18.   50. For the lattice type atten uator shown in the given figure, the characteristic impedance
Rv is
19.   51. 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.

20.   52. The low impedance of a dynamic loud speaker is a result of a) a large field magnet
b) the few turns of the voice coil
c) a large paper cone with big loud speakers
d) None of the above

53 The value of ICBO in a silicon transistor of b = 49 is 20 na) The value of ICEO for a temperature
rise of 180 C would bea) 8mA b) 160 nA c) 1 mA d) 7.84 mA
1.   54. A certain percentage of negative feedback does not yield a fixed reduction in gain
because it depends on-a) Transistor configuration b) Ambient temperature c) Initial value of gain d)
Leakage current of the transistor
2.   55. Crossover distortion occurs in --- amplifiers-a) Push pull b) Class A c) Class B d) Class
AB
3.   56. The power gain of an amplifier is 80 db) The half power frequency f1 and f2 are the
frequency where gain has fallen to ---dBa) 40 b) 77 c) 0 d) 80/Ö2
4.   57. In the given fig the overall voltage gain in the amplifier is a) Zero b) 1 c) 1000 d) 100000
5.   58. A two stage amplifier is required to have an upper cut off frequency of 2MHz and a lower
cut off frequency 30Hz. The upper and lower cut off frequencies of individual stage are
approximately-a) 4MHz, 60Hz b) 3MHz, 20Hz c) 3MHz, 60Hz d) 4MHz, 20Hz
6.   59. Number of possible states in a circuit with n- FLIPFLOPS is-a) Nn b) 3n c) 10n d) 2n
7.   60. In a digital voltmeter the largest number that can be read is – a) 0999 b) 1999 c) 2999 d)
9999
8.   61. The complement of the Boolean expression is

9. 62. The binary division 110002 ¸ 1002 gives – a) 110 b) 1100 c) 11 d) 101

10. 63. Time required by TTL circuit to switch from 0 to 1 or 1 to 0 is about – a) 10 ms b) 10 ns c) 100 ms d) 50 ns

11. 64. Identify the wrong statement ?a) 111002 – 100012 = 001012 b) 15E16 = 35010 c) 8110 = 1010012 d) 37.48 = 111 111.100

12. 65. Type of radar used to eliminate clutter in navigational application is – a) Monopulse radar b) MTl radar c) Tracking radar d) pulse radar

13. 66. Asynchronous sequential circuits are seldom designed to operate in the pulse mode because – a) the amplitude of input pulses in a pulse mode is very critical b) the duralion of the input pulses in a pulse mode is very critical c) fundamental mode asynchronous circuit is cheaper than pulse mode asynchronous circuit d) fundamental mode asynchronous circuit has a higher speed of operation than the pulse mode asynchronous circuit.

14. 67. Identity the transferred electron device-a) BARITT diode b) IMPATT diode c) Gunn diode d) Step recovery diode

.68. In a closed loop system the loop transfer function is given by The angle of departure of the root locus at S = -1+ J is-a) Zero b) 900

.c) -900 d) -1800

15. 69. The transfer function of a plant isFor a step input it is required that the response settles to within 2% of its final value. The plant setting time is – a) 20 sec b) 40 sec c) 35 sec d) 45 sec BSNL GE JTO Recruitment Question paper previous years exam last. 2007 2008

.70. The transfer function and states in a linear feedback system shown in given fig. are respectively –

.a) strictly stable and not stable b) strictly stable and stable c) not strictly stable and stable d) not stable and not stable.

16. 71. What is the steady state-error corresponding to a unit step input if the magnitude plot for a transfer function is shown in figure

17. 72. Mark the correct effect in respect of addition of a pole to the system loop transfer function?

1. 1. The root locus is pulled to the right.

2. 2. The system response becomes slower.

3. 3. The steady state error increases.of these statements-a) 1 and 2 are correct b) 1, 2 and 3 are correct c) 2 and 3 are correct d) 1 and 3 are correct

4. 73. In a feedback control system the polar plot of the open-loop transfer function intersects the real axis at - 2. The gain margin of the system is a) –5 dB b) 0 dB c) 6 dB d) 40 dB

74. The unity feedback system for K is the imaginary axis is-a) 2 b) 4

c) 6 d) 48

5. 75. The constant M loci plot is symmetrical width respect to-a) real axis and imaginary axis b) M =1 straight line and the real axis c) M =1 straight line and the imaginary axis d) M = 1 straight line and the imaginary axis

6. 76. Identify the wrong statement-a) Attenuation of satellite signals gain and varies almost inversely with the angle of elevation. b) At present4/6 GHz Geostationary satellites are being parked in Geosynchronous orbits at least 100 apart. c) The distance between satellite and earth station varies slightly with angle of elevation. d) The angle of elevation depends on latitude of the earth station and the difference in longitude between earth station and the satellite.

77 The Voltage Vo of the given circuit is-a) 5V b) 3.1 V c) 2.5 V d) Zero

1.   78. An antenna has 40 antenna resistance and 60W radiation resistances. The efficiency of the antenna is a) 30%
b) 40%
c) 50%
d) 60%

2.   79. The blind speed of an MTl radar can be avoided by changing the-
a) Carrier frequency
b) Pulse repetition frequency
c) Antenna rotation rate
d) Transmitted power

3.   80. Interlacing used in television is fora) produce the illusion of motion.
b) ensures that all the lines on the screen are scanned, not merely the alternate ones.
c) simplify the vertical sync pulse train
d) avoid flicker

   .81. The best system for accurate tracking if the target cross section is changing is-
a) lobe switching
b) sequential lobing

   .c) conical scanning d) monopulse

4.   82. In a single stage differential amplifier, the output effect voltage is basically dependent on the mismatch of-a) VBE, IB and b b) VBE and IB c) IB and b d) VBE and b

5.   83. Antenna elevation angle at the ground station for satellite communication is always kept above 50 to-a) Minimise the sky noise temperature b) Reduce the effect of oxygen and water vapor absorption on the antenna noise temperature c) Minimise the slant range d) Increase the visibility of the satellite

6.   84. In Hybrid wave-a) Both electric and magnetic fields are purely transverse to direction of propagation of wave b) Only electric field is purely transverse to direction of propagation of wave c) Only magnetic field is purely transverse to direction of propagation of wave d) Neither electric nor magnetic fields are transverse to direction of propagation of the wave

7.   85. Balometer technique is used to measure – a) Frequency b) Low power c) Attenuation d) Phase shift

8.   86. In fast switching circuits we use – a) Klystron tube b) Tunnel diode c) Magnetron tube d) PIN diode

9.   87. PIN diode is used as – a) Low noise mixer b) Microwave detector c) Balance mixer d) Phase shifter

   .88. A periodic fluctuation of current passing through n type GaAS specimen when applied voltage exceeds critical value

   .a) Gauss's law b) Faraday's law c) GUNN effect d) Doppler effect

10.   89. LOS distance can be increased by – a) Increasing height of transmitting antenna b) Increasing height of receiving antenna c) Increasing height of bath d) LOS distance can not be increased

11.   90. Which fading produces serious distortion of modulated signal-a) Selective b) Polorisation c) Interference d) Slow fading

12.   91. 8085 mP is a processor of a) 8 bit b) 10 bit c) 32 bit d) None

13.   92. The Bit position of AC flog in flog register is-a) D2 b) D4 c) D6 d) D7

14.   93. In which arithmatic operation CY flog do not affect even if result is larger than 8 bit-a)

INR B b) ADD A, B c) SUB A, B d) None

15.   94. A stock means-a) an 8 bit register in microprocessor b) a 16 bit memory address in memory c) a 16 bit register in microprocessor. d) a set of memory location in memory reserved for storing information temporarily.

16.   95. RIM instruction-a) checks pending interupts b) sets the interupt mask c) resets the RST interupt d) none of above

17.   96. A signal generated by microprocessor to provide timing of various operation is transmited through-a) address bus. b) data bus c) control bus d) in buit signal no need to transmit

18.   97. On execution of RAL-a) Each bit is shifted right to the adjacent position bit Do becomes Dy b) Each bit is shifted right to adjacent position bit Do becomes the carry bit and carry bit is shifted into DT c) Each bit is shifted to adjacent left position. Bit DT becomes Do d) Each bit is shifted to the adjacent left postion. Bit DT becomes the carry bit and the carry bit is shifted into Do

19.   98. A frequency divider can be designed with help of-a) Monostable b) Bistable c) Astable d) Quasistable

20.   99. The not allowed condition for NAND gate SR FF is-a) S = 0 R = 0 b) S = 0 R = 1 c) S = 1 R = 0 d) S = 1 R = 1 BSNL Recruitment Question Paper for GE JTO free. BSNL Placement Examination Paper previous years 2006 2007 2008 2009 sample paper. solutions / answer keys coming soon! 100. In IC resistors are formed from p-type semiconductor are – a) thin film b) thick film c) hybrid d) monolithic

101. Give the tense of the following sentence-He walked to the garden. a) Present b) Past c) Future d) None

102. You may go there if you want to. Here, the modal auxiliary 'may' indicates-a) obligation b) politeness c) possibility d) request

103. What type of a sentence is this? His findings were imroved and built apon. a) Simple b) Comound c) Complex d) None of the above

104. The manager is usually strict but in Madhav's case he decided to bea) direct b) fair c) excused d) lenient

105. Find the word which is wrongly spelt-a) possession b) ocassion c) profession d) procession

106. "Dow Jones" is a) Name of the national museum in London b) Bridge over River Thames c) New York Stock Index d) New Olympic champion in cycling

107. The term "Ashes" is associated with-a) Hockey b) Cricket c) soccer d) None of these

108. "Kathakali" dance is connected with-a) Kerala b) Rajasthan c) Uttar Predesh d) Tamil nadu

109. Among the following Miss India Universe 2001 is-a) Ms Sara corner b) Ms Maheshwari Thiagarajan c) Ms Celina Jetley d) None of the these 110. Maharashtra Bhusan Award for the year 2000 – 2001 by the state government goes to a) Sanjay Manjrekar b) Vinod Kambli c) Sachin Tendulkar d) Praveen Sharma

111. Who was Sworn in as the chief Justice of India-a) Mr. S. Krishnaswamy b) Mr.A.K. Mehra c) Mr. J.K. Naidu d) Mr. S.P. Bharucha

112. Which one of the following tennis competitions is not included in GRAND SLAM? a) Wimbeldon b) U.S open c) French open d) Australian open

113. The first Korean to win the Japan open badminton tournament is a) Lee Hyun – II b) Marleen Renders c) Shang Pee d) Emma Yan

114. India launched first satellite by the name-a) Bhaskara b) Aryabhatt c) INSAT d) APPLE

115. Which state in India is called the "garden of spices"? a) Karnataka b) Kerala c) Assam d) Tamil Nadu

116. The new CEO and the president of the Infosys Technology is – a) N. R. Narayan Murth b) Nandan Nilekani c) SD Shibulal d) M. Subbarao

117. The President of India can nominate to the Rajya Sabha) 6 members b) 9 members c) 12 members d) 15 members

118. King of Nepal is-a) Prince Gyanendra b) Prince Dipendra c) Prince Birendra d) Prince Devendra

119. The famous paper which gandhigi edited to propagate his ideas-a) Khadi b) Swadeshi c) Harijan d) Satyagraha

120. The length of the pitch in the cricket is-a) 22 meters b) 25 yards c) 50 feet d) 22 yards