

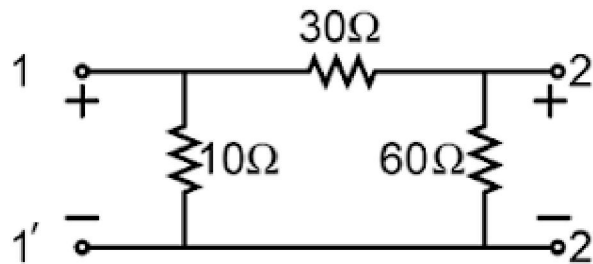








32. The average power delivered to an impedance  $(4 - j3)\Omega$  by a current  $5 \cos(100\pi t + 100)$  A is
- a) 44.2 W                      b) 50 W                      c) 62.5 W                      d) 125 W
33. A two port device is defined by the following pair of equations  $i_1 = 2v_1 + v_2$  and  $i_2 = 2v_1 + v_2$ , its admittance parameters are  $(y_{11}, y_{12}, y_{21}, y_{22})$  are given by
- a) [2,1,2,1]                      b) [1,2,2,1]                      c) [2,1,1,1]                      d) [1,2,1,2]
34. For the two port network shown in the figure, the impedance ( $Z$ ) matrix (in  $\Omega$ ) is



- a)  $\begin{bmatrix} 6 & 24 \\ 42 & 9 \end{bmatrix}$                       b)  $\begin{bmatrix} 9 & 8 \\ 8 & 24 \end{bmatrix}$                       c)  $\begin{bmatrix} 9 & 6 \\ 6 & 24 \end{bmatrix}$                       d)  $\begin{bmatrix} 42 & 6 \\ 6 & 60 \end{bmatrix}$
35. An integrator circuit is
- a) Low pass filter                      b) high pass filter                      c) band pass filter                      d) all pass filter
36. If a transistor is in saturation
- a)  $I_C = \beta I_B$                       b)  $I_C > \beta I_B$                       c)  $I_C < \beta I_B$                       d)  $I_C = I_B$
37. Zener breakdown diodes have breakdown voltage which has
- a) Has positive temperature coefficient.                      b) Has negative temperature coefficient.  
c) Is independent of temperature                      d) None of the above.
38. The type of negative feedback in a RC coupled amplifier without bypass capacitor is
- a) Voltage series feedback.                      b) Current series feedback.  
c) Voltage shunt feedback.                      d) Current shunt feedback.
39. The phase shift produced by feedback network in a Weinbridge oscillator is
- a)  $180^\circ$                       b)  $0^\circ$                       c)  $90^\circ$                       d)  $270^\circ$
40. The dissipation at the collector is zero in the quiescent state and increases with excitation in the case of a
- a) Class A series fed amplifier                      b) Class A transistor coupled amplifier  
c) Class AB amplifier                      d) Class B amplifier
41. The total derivative of the function 'xy' is
- a)  $xdy + ydx$                       b)  $xdx + ydy$                       c)  $dx + dy$                       d)  $dxdy$

42. For the differential equation  $\frac{dy}{dt} + 5y=0$  with  $y(0) =1$  the general solution is  
a)  $e^{5t}$       b)  $e^{-5t}$       c)  $5e^{-5t}$       d) none of these
43. The radial component of velocity for a particle moving in a circular path is  
a) zero      b) radius itself      c) variable      d) none of the above
44. In which Quadrant the HP comes above XY line and VP comes below XY line for orthographic projection?  
a) First Quadrant      b) Second Quadrant      c) Third Quadrant      d) Fourth Quadrant
45. The force applied on a body of mass 100 kg to produce an acceleration of  $5 \text{ m/S}^2$  is  
a) 20 N      b) 100 N      c) 500 N      d) None of these
46. Which was the major green building rating system developed by TERI  
a) GRIHA      b) LEED      c) BREEAM      d) CASBEE
47. Which stage is directly responsible for the technical functioning of the product  
a) engineering function      b) research function      c) manufacturing function  
d) commercial function
48. The first full-scale and usually fully functional forms of a new design is called  
a) Model      b) prototype      c) rapid prototype      d) design attribute
49. The Air Pollution and Control Act, popularly known as the 'Air Act' was passed for the first time in US in  
a) 1955      b) 1999      c) 2004      d) 2015
50. Probability of a product successfully operation for a specific period of time is called  
a) reliability      b) durability      c) conformance      d) serviceability

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