Wipro Placement Paper 2009

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Q1. Consider the following expressions indicating the step or impulse response of an initially relaxed control system-

a. (5/4e-2+) u(t)

b. (e-2t +5) (u(t))

c. V(t) + 8e-2t u(t)

d. V(t) + 4e-2t 4(t)

Q2.Which is the following relate to rational transfer function of a system-

1. Ratio of Fourier transform of output to input with zero initial conditions.
2. Ratio of Laplace transform of output to input with zero initial conditions.
3. Laplace transform of system impulse response.
4. Laplace transform of system unit step response.

Select the correct answer using the codes given below. Codes

a. 1 and 4

b. 2 and 3

c. 1 and 3

d. 2 and 4

Q3.For the signal g (t) - 10 cos (50 pt) cos2 (150at) The Nyquist sampling state in t seconds is

a. 150 samples per second

b. 200 samples per second

c. 300 samples per second

d. 350 samples per second

Q4. In the case of a 70 MHz 1F carries for a transponder band width of 36 MHz; energy must lie between --- MHz.

a. 34 and 106

b. 52. And 88

c. 106 and 142

d. 34 and 142

Q5. Radar used to eliminate clutter in navigational application is ---

a. Pulse radar

b. Tracking radar

c. MTI radar

d. Mono pulse radar

Q6. The 1.55 mm windows is not yet in use with fiber optic systems because ---

a. The attenuation is higher than at 0.85 mm

b. The attenuation is higher than at 1.3mm

c. Suitable laser devices have not yet been developed

d. It does not lend itself to wavelength multiplexing

Q7. Pre-emphasis in FM systems involves-

a. Compression of the modulating signal

b. Expansion of the modulating signal

c. Amplification of lower frequency components of the modulating signal.

d. Amplification of higher frequency components of the modulating signal.

Q8. In a terrestrial microwave system transmission of signals is achieved through-

a. reflection from the ionosphere

b. line of sight mode

c. reflection from the ground

d. diffraction from the stratosphere.

Q9. Casse grain feed is used with a parabolic reflector to

a. increase the gain of the system

b. increase the bandwidth of the system

c. reduce the size of the main reflector

d. allow the feed to be placed at a convenient point.

Q10. In most microwave communication link rain drop attenuation is caused due to-

a. scattering of microwaves by water drops of specific size.

b. scattering of microwaves by a collection of droplets acing as a single body.

c. absorption of microwaves by water and consequent heating of the liquid

d. absorption of the microwaves by water vapor in the atmosphere.

Q11. When a (75 - j40)W load is connected to a coaxial line of Z0 = 75 W at 6MHz then the load matching on the line can be accomplished by connecting-

a. A short - circuited stub at the load

b. An inductance at the load

c. A short circuited stub at a specific distance from the load

d. None of the above

Q12. As compared to analog multimeters, digital Multimeterss are ---

a. less accurate

b. more accurate

c. equally accurate

d. none.

Q13. When a signal of 10 mV at 75 MHz is to be measured then which of the following instruments can be used ---

a. VTVM

b. Cathode ray oscilloscope

c. Moving iron voltmeter

d. Digital multimeter

Q14. Amplifier of class B has high theoretical efficiency of 78.5 percent because-

a. It is biased almost to saturation

b. Its quiescent current is low

c. Its output is an exact replica of its input

d. It is biased well below cut off

Q15. The coupling that produces minimum interference with frequency response is-

a. Direct coupling

b. Impedance coupling

c. R C coupling

d. Transformer coupling

Q16. A superconductor is a ---

a. A material showing perfect conductivity and Meissner effect below a critical temperature

b. A conductor having zero resistance

c. A perfect conductor with highest di-magnetic susceptibility

d. A perfect conductor which becomes resistance when the current density through it exceeds a critical value

Q17. When an inductor tunes at 200 KHz with 624 pF capacitor and at 600 KHz with 60.4 pF capacitor then the self capacitance of the inductor would be ---

a. 8.05 pF

b. 10.05 pF

c. 16.01 pF

d. 20.01 pF

Q18. The Q of a radio coil ---

a. is independent of frequency

b. increases monotonically as frequency increases

c. decreases monotonically as frequency increases

d. increases up to a certain frequency and then decreases beyond that frequency

Q19. When a generator of internal impedance and operating at 1GHz feeds a load via a coaxial line of characteristic impedance 50 ohm then the voltage wave ratio on the feed line is ---

a. 0.5

b. 1.5

c. 2.5

d. 1.75

Q20. X varies inversely as square of y. Given that y = 2 for x = 1. The value of x for y = 6 will be equal to

a. 3

b. 9

c. 1/3

d. 1/9

ANS: d

Q21. If 10% of x = 20% of y, then x : y is equal to

a. 1 : 2

b. 2 : 1

c. 5 : 1

d. 10 : 1

ANS: b

Q22. A starts business with Rs.3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is Bs contribution in the Capital ?

a. Rs. 7500

b. Rs. 8000

c. Rs. 8500

d. Rs. 9000

ANS: d

Q23. Ronald and Elan are working on an assignment. Ronald takes 6 hours to type 32 pages on a computer, while Elan takes 5 hours to type 40 pages. How much time will they take, working together on two different computers to type an assignment of 110 pages ?

a. 7 hours 30 minutes

b. 8 hours

c. 8 hours 15 minutes

d. 8 hours 25 minutes

ANS: c

Q24. A and B can do a piece of work in 72 days; B and C can do it in 120 days; A and C can do it in 4 days. Who among these will take the least time if put to do it alone?

a. 80 days

b. 100 days

c. 120 days

d. 150 days

ANS: c

Q25. A cistern can be filled by a tap in 4 hours while it can be emptied by another tap in 9 hours. If both taps are opened simultaneously, then after how much time will the cistern get filled ?

a. 4.5 hours

b. 5 hours

c. 6.5 hours

d. 7.2 hours

ANS: d

Q26. Pipe a can fill a tank in 5 hours, pipe B in 10 hours and pipe C in 30 hours. If all the pipes are open, in how many hours will the tank completely ?

a. 6 min. to empty

b. 6 min to fill

c. 9 min. to empty

d. 9 min. to fill

ANS: c

Q27. A thief steals a car at 2.30 p.m and drives it at 60 kmph. The theft is discovered at 3 p.m and the owner sets off in another car at 75 kmph. When will be overtake the thief.

a. 4.30 p.m

b. 4.45 p.m

c. 5 p.m

d. 5.15 p.m

ANS: d

Q28. Two trains starting at the same time from two stations 200 km apart, and going in opposite directions cross each other at a distance of 110 km from one of the stations. What is the ratio of their speeds?

a. 9 : 20

b. 11 : 9

c. 11 : 20

d. None of these

ANS: b

Q29. Two trains each 100 m long, moving in opposite directions, cross each other in 8 seconds. If one is moving twice as fast the

other, then the speed of the faster train is

a. 30 km /hr

b. 45 km / hr

c. 60 km/hr

d. 75 km/hr

ANS: c

Q30. Laplace transform of system unit step response select the correct answer using the codes given below. Codes

a. 1 and 4

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Q31. For the signal g (t) - 10 cos (50 pt) cos2 (150at) The Nyquist sampling state in t seconds is

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