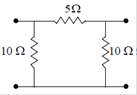
**(Two Marks Questions-15 No.s) (15x2=30 Marks)**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

1. The 2-port admittance matrix of the circuit shown is given by  
   
2. Description: Description: D:\GradeStack Courses\GATE Tests (Sent by Ravi)\GATE EC 10-Mar\GATE-ECE-2015-Paper-2_files\image056.png
3. Description: Description: D:\GradeStack Courses\GATE Tests (Sent by Ravi)\GATE EC 10-Mar\GATE-ECE-2015-Paper-2_files\image057.png
4. Description: Description: D:\GradeStack Courses\GATE Tests (Sent by Ravi)\GATE EC 10-Mar\GATE-ECE-2015-Paper-2_files\image058.png
5. Description: Description: D:\GradeStack Courses\GATE Tests (Sent by Ravi)\GATE EC 10-Mar\GATE-ECE-2015-Paper-2_files\image059.png

Answer: A

Marks: 2

1. Consider the signal f(t) =  where t is in seconds. Its fundamental time period, in seconds, is \_\_\_\_\_\_\_\_\_\_\_\_.
2. 1.5
3. 2.5
4. 11.99
5. Null

Answer: C

Marks: 2

1. The system y(t) = x(2t) + 3 is
2. Linear and Time Invarient
3. Causal and Linear
4. Non-Linear and Time Variant
5. Linear and memoryless

Answer: C

Marks: 2

1. The result of the convolution x(-t) \* (-t-t0)
2. x(t+t0)
3. x(t-t0)
4. x(-t+t0)
5. x(-t-t0)

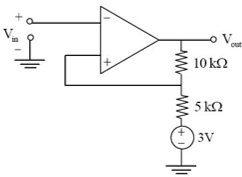
Answer: D

Marks: 2

1. A discrete time signal x(n)=sin(2n), n being an integer, is
2. periodic with period
3. periodic with period 2
4. periodic with period /2
5. not periodic

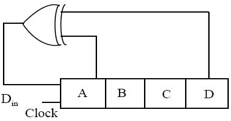
Answer: D

Marks: 2

1. For the operational amplifier circuit shown, the output saturation voltages are ±15V. The upper and lower threshold voltages for the circuit are, respectively.  
   
2. +5V and -5V
3. +7V and -3V
4. +3V and -7V
5. +3V and -3V

Answer: B

Marks: 2

1. A 4-bit shift register circuit configured for right-shift operation,http://academyera.com/wp-content/uploads/2019/11/1497878804178679.png http://academyera.com/wp-content/uploads/2019/11/1497878804820417.png , is shown. If the present state of the shift register is ABCD = 1101, the number of clock cycles required to reach the state ABCD = 1111 is \_\_\_\_\_\_\_\_\_.  
   

1. 1.5
2. 2.5
3. 10
4. Null

Answer: C

Marks: 2

1. If http://academyera.com/wp-content/uploads/2019/12/1452852039453568.png, then the region of convergence (ROC) of its Z-transform in the Z-plane will be

Answer: C

Marks: 2

1. The op-amp shown in the figure is ideal. The input impedance viniinviniin is given by

|  |
| --- |
| http://www.gate-exam.in/images/Qimage/EE/2018/Q-25.PNG |

1. Z
2. - Z
3. Z
4. Z

Answer: B

Marks: 2

1. For the circuit shown below, taking the opamp as ideal, the output voltage Vout in terms of the input voltages V1 , V2 and V3 is

|  |
| --- |
| http://www.gate-exam.in/images/Qimage/EE/2016/Q-137.PNG |

1. 1.8V1+7.2V2  - V3
2. 2V1+8V2 - 9V3
3. 7.2V1+1.8V2 - V3
4. 8V1+2V2 - 9V3

Answer: D

Marks: 2

1. For a periodic signal , the fundamental frequency in rad/s
2. 100
3. 300
4. 500
5. 1500

Answer: A

Marks: 2

1. What are the Fourier series coefficients for the signal x(n)=cosπn/3?
2. c1=c2=c3=c4=0,c1=c5=1/2
3. c0=c1=c2=c3=c4=c5=0
4. c0=c1=c2=c3=c4=c5=1/2
5. none of the mentioned

Answer: A

Marks:2

1. The impulse response of a continuous time system is given by http://academyera.com/wp-content/uploads/2019/12/1474018067343265.png. The value of the step response at t = 2 is
2. 0
3. 1
4. 2
5. 3

Answer: B

Marks: 2