

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8591	Subject Name : Digital Signal Processing	Rev. No.	02
Unit No : 1	Unit Name : Introduction	Date	30/09/2020

OBJECTIVE TYPE QUESTION BANK

S.NO	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1.	The system described by the equation $y(n)=ay(n-1)+b x(n)$ is a recursive system. a) True b) False	L1
2.	If $x(n)$ is a discrete-time signal, then the value of $x(n)$ at non integer value of 'n' is? a) Zero b) Positive c) Negative d) Not defined	L2
3.	The discrete time function defined as $u(n)=n$ for $n \geq 0$; $u(n)=0$ for $n < 0$ is an _____ a) Unit sample signal b) Unit step signal c) Unit ramp signal d) None of the mentioned	L3
4.	The signal given by the equation $\sum_{n=-\infty}^{\infty} x(n) ^2$ is known as _____ a) Energy signal b) Power signal c) Work done signal d) None of the mentioned	L1
5.	A real valued signal $x(n)$ is called as anti-symmetric if _____ a) $x(n)=x(-n)$ b) $x(n)=-x(-n)$ c) $x(n)=-x(n)$ d) none of the mentioned	L2

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8591	Subject Name : Digital Signal Processing	Rev. No.	02
Unit No : 1	Unit Name : Introduction	Date	30/09/2020

OBJECTIVE TYPE QUESTION BANK

6.	The odd part of a signal $x(t)$ is? a) $x(t)+x(-t)$ b) $x(t)-x(-t)$ c) $(1/2)*(x(t)+x(-t))$ d) $(1/2)*(x(t)-x(-t))$	L3
7.	The function given by the equation $x(n)=1$, for $n=0$; $x(n)=0$, for $n \neq 0$ is a _____ a) Step function b) Ramp function c) Triangular function d) Impulse function	L1
8.	Time scaling operation is also known as _____ a) Down-sampling b) Up-sampling c) Sampling d) None of the mentioned	L2
9.	The output signal when a signal $x(n)=(0,1,2,3)$ is processed through an 'Identical' system is? a) (3,2,1,0) b) (1,2,3,0) c) (0,1,2,3) d) None of the mentioned	L3
10.	If the output of the system of the system at any 'n' depends only the present or the past values of the inputs then the system is said to be _____ a) Linear b) Non-Linear c) Causal d) Non-causal	L1

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8591	Subject Name : Digital Signal Processing	Rev. No.	02
Unit No : 1	Unit Name : Introduction	Date	30/09/2020


OBJECTIVE TYPE QUESTION BANK

11.	The system described by the input-output equation $y(n)=nx(n)+bx^3(n)$ is a _____ a) Static system b) Dynamic system c) Identical system d) None of the mentioned	L2
12.	If a system do not have a bounded output for bounded input, then the system is said to be _____ a) Causal b) Non-causal c) Stable d) Non-stable	L3
13.	The system described by the input-output equations $y(n)=x(-n)$ is a causal system. a) True b) False	L1
14.	The system described by the input-output equations $y(n)=x^2(n)$ is a Non-linear system. a) True b) False	L2
15.	Whether the system described by the input-output equations $y(n)=x(n)-x(n-1)$ a Time-variant system. a) True b) False	L3
16.	If the output of the system is $y(n)=\sum_{k=-\infty}^{\infty}x(k)$ with an input of $x(n)$ then the system will work as _____ a) Accumulator b) Adder c) Subtractor d) Multiplier	L1

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8591	Subject Name : Digital Signal Processing	Rev. No.	02
Unit No : 1	Unit Name : Introduction	Date	30/09/2020

OBJECTIVE TYPE QUESTION BANK

17.	What is the output $y(n)$ when a signal $x(n)=n*u(n)$ is passed through an accumulator system under the conditions that it is initially relaxed? a) n^2+n+12 b) $n(n+1)^2$ c) n^2+n+22 d) None of the mentioned	L2
18.	The output signal when a signal $x(n)=(0,1,2,3)$ is processed through an 'Delay' system is? a) (3,2,1,0) b) (1,2,3,0) c) (0,1,2,3) d) None of the mentioned	L3
19.	The block denoted as follows is known as _____  a) Delay block b) Advance block c) Multiplier block d) Adder block	L1
20.	Which of the following parameters are required to calculate the correlation between the signals $x(n)$ and $y(n)$? a) Time delay b) Attenuation factor c) Noise signal d) All of the mentioned	L2
21.	Which of the following relation is true? a) $r_{xy}(l)=r_{xy}(-l)$ b) $r_{xy}(l)=r_{yx}(l)$ c) $r_{xy}(l)=r_{yx}(-l)$ d) none of the mentioned	L3

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8591	Subject Name : Digital Signal Processing	Rev. No.	02
Unit No : 1	Unit Name : Introduction	Date	30/09/2020

OBJECTIVE TYPE QUESTION BANK

22.	Is the system with impulse response $h(n)=2^n u(n-1)$ stable. a) True b) False	L1
23.	$x(n)*\delta(n-n_0)=?$ a) $x(n+n_0)$ b) $x(n-n_0)$ c) $x(-n-n_0)$ d) $x(-n+n_0)$	L2
24.	If the system is initially relaxed at time $n=0$ and memory equals to zero, then the response of such state is called as _____ a) Zero-state response b) Zero-input response c) Zero-condition response d) None of the mentioned	L3
25.	Zero-input response is also known as Natural or Free response. a) True b) False	L1
26.	Zero-state response is also known as _____ a) Free response b) Forced response c) Natural response d) None of the mentioned	L2
27.	The solution obtained by assuming the input $x(n)$ of the system is zero is _____ a) General solution b) Particular solution c) Complete solution d) Homogenous solution	L3

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : EE8591	Subject Name : Digital Signal Processing	Rev. No.	02
Unit No : 1	Unit Name : Introduction	Date	30/09/2020

OBJECTIVE TYPE QUESTION BANK

28.	<p>What is the homogenous solution of the system described by the first order difference equation $y(n)+ay(n-1)=x(n)$?</p> <p>a) $c(a)^n$(where 'c' is a constant) b) $c(a)^{-n}$ c) $c(-a)^n$ d) $c(-a)^{-n}$</p>	L1
29.	<p>What is the impulse response of the system described by the second order difference equation $y(n)-3y(n-1)-4y(n-2)=x(n)+2x(n-1)$?</p> <p>a) $[-15 (-1)^n-65 (4)^n]u(n)$ b) $[15 (-1)^n-65 (4)^n]u(n)$ c) $[15 (-1)^n+65 (4)^n]u(n)$ d) $[-15 (-1)^n+65 (4)^n]u(n)$</p>	L2
30.	<p>The total solution of the difference equation is given as _____</p> <p>a) $y_p(n)-y_h(n)$ b) $y_p(n)+y_h(n)$ c) $y_h(n)-y_p(n)$ d) None of the mentioned</p>	L3