

These are sample MCQs to indicate pattern, may or may not appear in examination
University of Mumbai

Online Examination 2020

Program: BE Computer Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

Course Code: CPC 701 and Course Name: Digital Signal Processing

Time: 1hour

Max. Marks: 50

Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	IDFT stands for
Option A:	Inverse Digital Fourier Transform
Option B:	Inverse Discrete Fourier Transform
Option C:	Inverse Discrete Fourier Theory
Option D:	Inverse Digital Fourier Theory

Q2.	For N-Point DFT , How many Complex Additions are required to be performed?
Option A:	$N*N$
Option B:	$N(N-1)$
Option C:	$4*N$
Option D:	$N/2$

Q3.	What is the full form of BIBO?
Option A:	Boundary input Boundary Output
Option B:	Boundary Input Bounded Output
Option C:	Bonded Input Bonded Output
Option D:	Bounded Input, Bounded Output

Q4.	For 8-Point FFT , How many Complex Additions are required to be performed?
Option A:	12
Option B:	20
Option C:	24
Option D:	30

Q5.	Comment on the causality of $y[n] = x[-n]$.
Option A:	Time invariant
Option B:	Causal
Option C:	Non causal
Option D:	Time varying

Q6.	Find energy of $x(n)=\{1,2,2,3\}$.
Option A:	10
Option B:	18
Option C:	30
Option D:	40

Q7.	A signal is anti-causal if _____
Option A:	$x(t) = 0$ for $t = 0$
Option B:	$x(t) = 1$ for $t < 0$
Option C:	$x(t) = 1$ for $t > 0$
Option D:	$x(t) = 0$ for $t > 0$

Q8.	The system described by the input-output equation $y(n)=nx(n)+bx(n)$ is a _____
Option A:	Static system
Option B:	Dynamic System
Option C:	Identical system
Option D:	Analog system

Q9.	find IFFT of $X(k)=\{10,-2+2j,-2,-2-2j\}$
Option A:	$x(n)=\{3,4,5,1\}$
Option B:	$x(n)=\{4,3,2,1\}$
Option C:	$x(n)=\{1,2,3,4\}$
Option D:	$x(n)=\{3,4,2,1\}$

Q10.	if $X(k)=\{15,-3+6j,-5,-3-6j\}$ and $x(n)$ is inverse of $X(k)$, then find $x(0)$.
Option A:	15
Option B:	-5
Option C:	1
Option D:	4

Q11.	$x(n)*\delta(n-n_0)=$
Option A:	$x(n+n_0)$
Option B:	$x(n-n_0)$
Option C:	$x(-n-n_0)$
Option D:	$x(-n+n_0)$

Q12.	Which of the following should be done in order to convert a continuous-time signal to a discrete-time signal?
------	---

Option A:	Sampling
Option B:	Differentiating
Option C:	Integrating
Option D:	Convolving

Q13.	Calculate Number of Complex Multiplications required to be done in calculation of 64- Point FFT?
Option A:	64
Option B:	128
Option C:	192
Option D:	512

Q14.	A signal is an energy signal if the signal has average energy equal to _____
Option A:	Infinite
Option B:	Finite
Option C:	Zero
Option D:	Does not depend on the average energy value

Q15.	The odd part of a signal $x(t)$ is
Option A:	$x(t)+x(-t)$
Option B:	$x(t)-x(-t)$
Option C:	$(1/2)*(x(t)-x(-t))$
Option D:	$(1/2)*(x(t)+x(-t))$

Q16.	Which of the following systems is linear?
Option A:	$y(t) = \sin(x(t))$
Option B:	$y(t) = \log(x(t))$
Option C:	$y(t) = \cos(x(t))$
Option D:	$y(t) = dx(t)/dt$

Q17.	Correlation analysis is a
Option A:	Univariate analysis
Option B:	Bivariate analysis
Option C:	Multivariate analysis
Option D:	Univariate analysis and Bivariate Analysis

Q18.	Based on the data of exercise hours of a person and its age, how you can give the general remark about time to be spent on fitness by a human?
Option A:	Using Carl's correlation coefficient
Option B:	Using Circular convolution
Option C:	Using IDFT

Option D:	Using Linear convolution
-----------	--------------------------

Q19.	The rank correlation coefficient is always.....
Option A:	1
Option B:	-1
Option C:	Between + 1 and - 1
Option D:	0

Q20.	Fast convolution means
Option A:	Reduction of multiplication against increase in addition operations
Option B:	Reduction of addition against increase in multiplication operations
Option C:	Reduction of addition against increase in subtraction operations
Option D:	Reduction of subtraction against increase in multiplication operations

Q21.	The interface between an analog signal and a digital processor is
Option A:	D/A converter
Option B:	A/D converter
Option C:	Modulator
Option D:	Demodulator

Q22.	In which of the speech related application, DSP is not used?
Option A:	Speech Synthesis
Option B:	Speech Recognition
Option C:	Speech Coding
Option D:	Direct Speech Recording

Q23.	TMS320C54XX is
Option A:	General Purpose DSP
Option B:	Special Purpose DSP
Option C:	General Purpose Microprocessor
Option D:	Special Purpose Microprocessor

Q24.	What are elements of 3rd row of [W4] DFT matrix?
Option A:	[1,1,1,1]
Option B:	[1,j,1,-j]
Option C:	[1,-1,1,-1]
Option D:	[1,-j,1,j]

Q25.	What is DFT of sequence $x(n)=\{1,1,2,2\}$?
Option A:	$X(K)=\{2,1-j,0,2-j\}$
Option B:	$X(K)=\{6,-1+j,0,-1-j\}$
Option C:	$X(K)=\{4,1-j,0,1+j\}$
Option D:	$X(K)=\{6,2-j,0,2+j\}$