

# NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

<b>Course/Branch</b> : B.E/CSE	<b>Year / Semester</b> : II / III	Format No.	NAC/TLP-07a.13
<b>Subject Code</b> : EC8395	<b>Subject Name</b> : Communication Engineering	Rev. No.	02
<b>Unit No</b> : 5	<b>Unit Name</b> : Spread Spectrum and Multiple Access Techniques	Date	30.09.2020

## OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices )	BTL
1	The transmission bandwidth of spread spectrum techniques is equal to the minimum required signal bandwidth. a) True <b>b) False</b>	L2
2	Why spread spectrum technique is inefficient for a single user? a) <b>Large transmission bandwidth</b> b) Small transmission bandwidth c) Fixed transmission bandwidth d) Fixed null bandwidth	L2
3	Which of the following is not a property of spread spectrum techniques? a) Interference rejection capability b) <b>Multipath fading</b> c) Frequency planning elimination d) Multiple user, multiple access interface	L4
4	Which of the following is not a characteristic of PN sequence? a) Nearly equal number of 0s and 1s b) Low correlation between shifted version of sequence c) <b>Non deterministic</b> d) Low cross-correlation between any two sequences	L5
5	PN sequence can be generated using sequential logic circuits. a) True b) False	L1
6	The period of a PN sequence produced by a linear m stage shift register cannot exceed ____ symbols. a) 2m b) m c) 2 <sup>m</sup>	L1

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	d) 2 <sup>m</sup> -1		
7	DSSS system spreads the baseband signal by _____ the baseband pulses with a pseudo noise sequence.  a) Adding b) Subtracting c) <b>Multiplying</b> d) Dividing		L2
8	Frequency hopping involves a periodic change of transmission _____.  a) Signal b) <b>Frequency</b> c) Phase d) Amplitude		L1
9	What is the set of possible carrier frequencies in FH-SS?  a) <b>Hopset</b> b) Hop c) Chips d) Symbols		L1
10	The bandwidth of the channel used in the hopset is called _____.  a) Hopping bandwidth b) Total hopping bandwidth c) <b>Instantaneous bandwidth</b> d) 3 dB bandwidth		L3
11	The processing gain of FH systems is given by ratio of _____.  a) Hopping bandwidth and hopping period		L2

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	b) Instantaneous bandwidth and hopping duration  c) 3 dB bandwidth and bit rate  <b>d) Total hopping bandwidth and instantaneous bandwidth</b>	
12	FH systems do not have collisions. a) True <b>b) False</b>	L3
13	In fast frequency hopping, hopping rate is less than the information symbol rate. a) True <b>b) False</b>	L1
14	SSMA uses signals which have a transmission bandwidth that is smaller than the minimum required RF bandwidth. a) True <b>b) False</b>	L1
15	PN sequence converts _____ signal to _____ signal. a) <b>Narrowband, wideband</b> b) Wideband, narrowband c) Unmodulated, modulated d) Low frequency, high frequency	L2
16	SSMA is bandwidth efficient when used with a single user. a) True <b>b) False</b>	L3
17	_____ is a digital multiple access system in which carrier frequencies are varied in pseudorandom order.  a) CDMA b) FCDMA <b>c) FHMA</b> d) SDMA	L1
18	If the rate of change of the carrier frequency is greater than the symbol rate, then the system is referred as _____	L5

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		<p><b>a) Fast frequency hopping system</b></p> <p>b) Slow frequency hopping system</p> <p>c) Time division frequency hopping system</p> <p>d) Code division multiple access system</p>	
19		<p>A frequency hopped system does not provide security.</p> <p>a) True</p> <p><b>b) False</b></p>	L1
20		<p>All users in CDMA system uses _____ carrier frequency.</p> <p>a) Different</p> <p>b) Two</p> <p>c) Ten</p> <p><b>d) Same</b></p>	L1
21		<p>_____ problem occurs when many mobile users share the same channel.</p> <p><b>a) Near-far</b></p> <p>b) Activation</p> <p>c) Line of sight</p> <p>d) Windowing</p>	L2
22		<p>In CDMA, symbol duration is _____ than channel delay spread.</p> <p>a) Equal</p> <p>b) Greater</p> <p>c) Slightly greater</p> <p><b>d) Much less</b></p>	L3
23		<p>_____ is used to improve reception by collecting time delayed versions of the required signal.</p>	L1

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		<p>a) <b>RAKE receiver</b></p> <p>b) Equalizer</p> <p>c) Frequency modulator</p> <p>d) High pass filter</p>	
24		<p>_____ arises from the fact that the spreading sequences of different users are not orthogonal.</p> <p>a) Near-far problem</p> <p>b) Line of sight</p> <p>c) Windowing</p> <p><b>d) Self jamming</b></p>	L5
25		<p>TDMA is used instead of TDM when:</p> <p>a. all the signals come from the same source</p> <p><b>b. the signals come from different sources</b></p> <p>c. TDM is used in RF communications</p> <p>d. they mean the same thing</p>	L1
26		<p>When calculating the maximum number of users, a limiting factor in FDM is:</p> <p>a. the type of media used</p> <p>b. the length of the channel</p> <p><b>c. the bandwidth of each signal</b></p> <p>d. all of the above</p>	L1
27		<p>A DS-1 signal contains:</p> <p>a. 12 channels</p> <p><b>b. 24 channels</b></p>	L2

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	c. 32 channels d. 64 channels	
28	The bit-rate of a DS-1 signal over a T-1 line is: a. 64 kbps b. 256 kbps c. 1.536 Mbps d. <b>1.544 Mbps</b>	L3
29	Moving signals from one line to another is called: a. time switching b. <b>space switching</b> c. line switching d. cross point switching	L1
30	Moving PCM samples from one time-slot to another is called: a. <b>time switching</b> b. space switching c. signal switching d. crosspoint switching	L2
31	Spread-spectrum can be done by using: a. computer-controlled frequency reuse b. frequency-hopping c. direct-sequence method d. <b>all of the above</b>	L3