MR17

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.TECH II SEM (MR17)

1ST MID EXAM QUESTION BANK

SUBJECT: AIR POLLUTION AND CONTROL

Branch: **ECE**

Name of the faculty: Ms.S.Pooja Sri Reddy

PART-A

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Classify the different types of air pollutantswith the help of flow chart.	Analyzing	1
	OR		
2.	List in detaileffects of air pollution on man, material and Vegetation?	Analyzing	1
3.	Identify the Scope and Significance of Air pollution and explain in detail	Applying	1
	OR		
4.	Construct briefly about ambient air quality standards	Applying	1
5.	Explain greenhouse effect and its effects and preventive measures?	Understand	1
	OR		
6.	Illustrate primaryair pollutant and sources of two primary air pollutants in detail.	Understand	1

7.	Explain acid rain and its effects and preventive measures	Understand	1
	OR		
8.	Explain in detail about any one of the global effects of air pollution	Understand	1
Module II			
1.	Identify the formation of SOxand explain in detail?	Applying	2
	OR		
2.	Identify the formation of NOxand explain in detail?	Applying	2
3.	Explain the thermodynamics of combustion?	Understand	2
	OR		
4.	Explain any two removal products of gas	Understand	2
5.	List out the various steps involving thecombustion of gas?	Analyzing	2
	OR		
6.	List out thevarious steps in the formation of CO and combustion of oil?	Analyzing	2
7.	Explain the term Combustion, What are the control products of combustion	Understand	2
	OR		
8.	Demonstrate the processes involved in combustion of coal?	Understand	2
Module III			
1.	Functionof wind rose diagram?	Analyzing	3
	OR		
2.	Compare and classify the various meteorological parameter of wind	Analyzing	3
3.	Explain what is meteorology? And explain any one meteorology parameters in air pollution?	Understand	3
	OR		
4.	Explain the following terms a) Heat and b) Pressure.	Understand	3

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1st MID EXAM QUESTION BANK

SUBJECT: AIR POLLUTION AND CONTROL

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OBJECTIVE QUESTIONS

1 Give an example of single or point source? ( )

A Open burning
B Power plants
C Channel vessels
D None of the above

2 Which gas is mainly produced due to incomplete burning of wood? ( )

A Co
B So2
C No2
D No3

3 Which of the following is involved in production of carboxy haemoglobin? ( )

A Co
B So2
C No2
D No3

4 Which of the following is a liquid form of aerosol? ( )

A Fume
B Dist

C Mist
D Smoke

5 X ray films are a source of which of the following gas? ( )
A So2
B Co2
C No2
D No3

6 The maximum size of fly ash is---------micro metre. ( )
A 1
B 100
C 1000
D 10

7 Which of the following leads to a disease called broncho spasm? ( )
A So2
B So3
C So4
D Co2

8 The minimum size of smoke particle is --------micron metre. ( )
A 0.2
B 1
C 0.8
D 0.5

9 Which of the following is a secondary air pollutant? ( )
A SPM
B PAN
C So2
D No2

10 The permissible concentration of PM 10 in the air is ( )
A 60µg/m^3
B 40µg/m^3
C 50µg/m^3
D 20µg/m^3

11 What is the primary standard level for carbon monoxide for assuring air quality? ( )
A 10ppm
B 90 ppm
C 1 ppm

D 9 ppm

12 The pulmonary section of the respiratory tract consists of _____ ( )
A Nose and mouth as well as down till epiglottis and larynx
B Bronchi down till the end of bronchiole
C Respiratory bronchiole, alveoli and alveoli ducts
D Alveoli ducts and alveoli

13 What is the primary function(s) of the alveoli? ( )
A Transfer of oxygen to the blood
B Removal of carbon dioxide from the blood
C Transfer of toxic substances to the blood
D All of the mentioned

14 The velocity of air reduces to zero by the time it reaches the bronchi. ( )
A True
B False
C True or false
D None of the above

15 Particles of what size are filtered by the nasal passage? ( )
A >10micrometre
B >500 micrometre
C >1 mm
D >5 micrometre

16 What is the effect of ozone on human respiratory system? ( )
A It has higher affinity to bind with haemoglobin and does not allow binding of oxygen
B It causes the disfigurement of the alveoli reducing the surface area for gaseous transfer
C It damages lung tissues and aggravates asthma
D All of the mentioned

17 Which of the following pollutants is the major contributor to photochemical smog? ( )
A Peroxynitrates
B Hydroperoxides
C Nitrogen dioxide
D Ozone

18 What are the effects of sulphur dioxide on human body? ( )
A It causes the malfunction of liver and kidney

B It breaks down body's immunity towards particulate matter and bacteria

C It causes blood cells to dilate thereby affecting blood flow through the circulatory system

D All of the mentioned

( )

19 How does increase in temperature affect air pollution?

A Higher temperatures reduce air pollution

B Higher temperatures increase air pollution

C Temperature does not affect the air pollution levels

D Humidity factor is also necessary to predict variance of air pollution with temperature

( )

20 Ocean is a source for carbon monoxide.

A True

B False

C True or false

D None of the above

( )

21 How does carbon monoxide affect the human body?

A It does not allow binding of oxygen with haemoglobin

B It reduces the surface area of the alveoli and disrupts gaseous transfers

C It causes the liver to malfunction, increasing bile secretion

D It reduces the body's tendency to absorb water thereby making us feel dehydrated

( )

22 What is the Haldane equation used for?

A To measure the amount of oxygen converted to ozone for a given wavelength of UV light

B To measure the ratio of affinity of carbon monoxide and oxygen to bind to a haemoglobin molecule

C To measure the percentage of carbon monoxide that is oxidised to carbon dioxide in various levels of oxygen

D To calculate the percentage of oxygen addition and carbon dioxide removal during respiratory action

( )

23 How does nitrogen affect the human body?

A Increases vulnerability to pathogens

B Destroys the macrophages

C Injures the defence mechanism of the lungs

D All of the mentioned

( )

24 Which of the following is the current major contributor to lead air pollution?

A Motor vehicles

B Metal processing centres
C Waste incinerators
D Lead acid battery manufacturing units

( )

25 How does lead affect the human body?
A Increases blood pressure
B Damages the cerebellum, liver and kidney
C Leads to reproductive disorders and osteoporosis
D All of the mentioned

( )

26 Which of the following belongs to class of extremely toxic dioxin compound(s)?
A Polychlorinated dibenzo-p-dioxins
B Polychlorinated dibenzofurans
C Polychlorinated biphenyls
D All of the mentioned

( )

27 Which of the following compounds was earlier produced for the utility of transformers?
A PDD
B PCDF
C PCB
D TCDD

( )

28 Crocidolite, actionide and amosite belong to which of the following category of pollutants?
A Particulate matter
B Asbestos
C Dioxins
D Cigarette smoke

( )

29 Which of the following plants is extremely sensitive towards sulphur dioxide?
A Onion
B Potato
C Corn
D Tomato

( )

30 TCDD is a human carcinogen.
A True
B False
C True or false
D none of the above

( )

31 Which of these is NOT a primary pollutant?

A Carbon monoxide
B Carbon dioxide
C Ground level ozone
D Oxygen

( )

32 What percentage of pollutants is gaseous in nature?

A 75%
B 80%
C 99.9%
D 90%

33 Which of the following is an inorganic pollutant? ( )

A Carbon monoxide
B Carbonyl compounds
C Aromatic hydrocarbons
D None of the mentioned

( )

34 Which of these belongs to the category of criteria pollutants?

A Ozone
B Lead
C Carbon monoxide
D All of the mentioned

( )

35 Which of the following are classified as major sources to air pollution?

A Fuel consumption by local citizens
B Sewage treatment plants
C Dry cleaning and laundries
D None of the mentioned

( )

36 Which is the most abundant hydrocarbon in the atmosphere?

A Methane
B Carbonyl sulphide
C Ethane
D None of the mentioned

( )

37 What does the abbreviation VOC stand for?

A Versatile Oxygenated Compounds
B Volatile Oxygenated Compounds
C Volatile Organic Carbons
D Volatile Organic Compounds

( )

38 What is the range of vapour pressure of VOCs?

A High vapour pressure
B Low vapour pressure
C Depends on the concentration of VOCs
D Depends on the type of VOCs

( )

39 Which is the largest-volume manufactured organic chemical?
A Ethylene
B Ethane
C Formaldehyde
D Carbonic acid

( )

40 What does PAH stand for in terms of organic chemistry?
A Polynuclear Aromatic Hydrocarbons
B Polyethylene Acetic Hydride
C Polycyclic Acetic Hydrocarbons
D Polynuclear Aromatic Hydrides

( )

41 What is the residence time (average time a particle is active in a given system) of carbon monoxide?
A 11-15 years
B 0.1-0.3 years
C 0.5 years
D Few minutes

( )

42 Which of the following gases has the highest affinity for blood haemoglobin?
A Carbon dioxide
B Oxygen
C Carbon monoxide
D Nitrogen

( )

43 At what concentration can the taste and smell of sulphur dioxide be detected?
A 1000-2000ppm
B 11-30ppm
C 500-700ppm
D 0.1-0.3ppm

( )

44 Which is the major source for sulphur dioxide?
A Volcanic eruptions
B Coal and crude oil combustion
C Burning of petrol
D Sewage treatment process

( )

45 Which is the largest source for production of nitrous oxide?

A Chemical industry
B Fertiliser industry
C Fossil fuel combustion
D Bacterial action

( )

46 Pesticides also contribute to air pollution along with polluting underground reservoirs. True or false?
A True
B False
C True or false
D None of the above

( )

47 Which of the following are sources to fluorine air pollution?
A Coal combustion
B Steel industries
C Phosphate fertiliser manufacturing
D All of the mentioned

( )

48 Which is/are the most significant air-borne allergen(s)?
A Fungi
B Pollen
C Soot
D All of the mentioned

( )

49 Which of the following is a source for boron air pollution?
A Rockets and jets
B Automobiles
C Soap industries
D Refrigerants

( )

50 Which are the sources of arsenic pollution?
A Coal and petroleum
B Detergents and pesticides
C Mine tailings
D All of the mentioned

( )

51 What does the word ‘meteorology’ define?
A Study of meteors and asteroids
B Study of measurements and instruments
C Study of chemical properties of metals
D Study of the weather and atmospheric changes

( )

52 What is a “tetroon” in the field of meteorology?

A A tool used to study wind patterns
B A tool used to study pressure variations
C A tool used to study temperature deviations
D A tool used to study humidity

( )

53 What does the Richardson number indicate in wind analysis?
A Mechanical turbulence
B Convective heat production
C Mechanical turbulence & Convective heat production
D None of the mentioned

( )

54 Above which Richardson number does vertical mixing in winds disappear?
A 1
B 0.25
C 0.5
D 0.75

55 When Richardson number is equal to zero, what is the wind turbulence characteristic? ( )
A No vertical mixing
B Weak mechanical turbulence due to stratification
C Convective mixing is greater than mechanical turbulence
D Only mechanical turbulence

( )

56 Below what Richardson number does convective mixing start dominating mechanical turbulence?
A 0
B -0.04
C -0.03
D -0.1

( )

57 What is high pressure area with sinking air also known as?
A Cyclone
B Anti-cyclone
C Eddy zone
D Richardson zone

( )

58 What does the term “turbidity” indicate in atmospheric quality?
A Indicates density of clouds
B Reduction of light due to dust particles
C Indicates the humidity
D Turbulence of winds

( )

59

Which of the following gases vary significantly over time and place at the atmospheric boundary level?

A Carbon dioxide
B Ozone
C Water vapour
D Oxygen

60 How does atmospheric pressure vary with increase in altitude?

A It decreases linearly ( )
B It decreases exponentially
C It increases linearly
D It increases till stratosphere and then starts decreasing exponentially

( )

61 What does the term obliquity indicate?

A Earth's axial tilt of 23.5 degrees
B Alignment of the Earth's internal magnetic field
C Analysis of ocean currents
D Pressure variation over different seasons

( )

62 Which are the two forces balanced by the geostrophic wind?

A Coriolis effect and pressure gradient force
B Coriolis force and centrifugal force
C Frictional force and pressure gradient force
D Pressure gradient force and centrifugal force

( )

63 Which of the following has the highest albedo?

A Water surface
B Plateau surfaces
C Vegetation
D Fresh snow

( )

64 The stability of the stratosphere is due to which of the following reasons?

A Absorption of solar energy by ozone layer
B Strong wind currents
C Pressure is minimal
D All of the mentioned

( )

65 Which of the following is regarded as climate control factor(s)?

A Latitude
B Elevation
C Ocean currents
D All of the mentioned

( )

66 Which plant helps in detection of pollution from automobile exhaust?

A Neem
B Tulsi
C Lichen
D Lettuce

( )

67 Which of the following plants aid as an indicator to ozone pollution?

A Tomato
B Tobacco
C Watermelon
D All of the mentioned

( )

68 Greater the Air Quality Index of a region, more polluted is the air. True or false?

A True
B False
C True or false
D None of the above

( )

69 How many parameters are taken into consideration when measuring air quality, in India?

A 4
B 3
C 8
D 9

( )

70 Which of the following pollutants are considered when measuring air quality?

A CO, O3, PM2.5
B NH3, PM10, Pb
C NO2, SO2
D All of the mentioned

( )

71 What range of air quality index has the most severe impact on human health?

A 101-200
B 201-300
C 301-400
D 401-500

( )

72 Hazardous pollutants are those pollutants for which air quality standards have been devised.

A True
B False

C True or false
D None of the above

( )

73 Which of the following devices is NOT used to control particulate emissions?
A Electrostatic precipitator
B Bag filters
C Catalytic converters
D All of the mentioned

( )

74 Which of the mentioned devices are used for removing vapour phase/ gaseous pollutants?
A Absorption towers
B Catalytic converters
C Thermal oxidizers
D All of the mentioned

( )

75 At what concentration (in ppm), is nitrogen present in the atmosphere?
A 780,840
B 390,420
C 78,084
D 900,000

( )

76 In the lower layers of atmosphere, what range of wavelengths of light is predominant?
A Less than 100 nm
B Greater than 300 nm
C Between 100-300 nm
D All wavelengths are equally present

( )

77 What does the ratio of the mass of water vapour to mass of air indicate?
A Absolute humidity
B Specific humidity
C Relative humidity
D Approximate humidity

( )

78 What is the region of mild and irregular wind in the equatorial region known as?
A Trade winds
B Westerlies
C Doldrums
D Easterlies

( )

79 “Roaring forties” is the term used to describe which of the following winds?

A East-to-west air winds in the southern hemisphere
B West-to east air winds in the northern hemisphere
C East-to-west air winds in the northern hemisphere
D West-to-east air winds in the southern hemisphere

( )

80 Match the following:

A.Hurricane	1.Indian Ocean and South Pacific
B.Typhoon	2.Low level air circulation
C.Cyclone	3.Northeastern Pacific and Atlantic
D.Tropical Cyclone	4.Northwestern Pacific

A A-1; B-3; C-2; D-4
B A-3; B-4; C-1; D-2
C A-2; B-3; C-4; D-1
D A-3; B-2; C-1; D-4

( )

81 Which of the following statements is true?
A Troposphere is equally thick across different parts of the world
B Troposphere contains the ozone layer
C Troposphere is thinner at the equator than at the poles
D Troposphere is thicker at the equator than at the poles

( )

82 Which of the following indicates the correct order of the principal layers of the earth's atmosphere from top to bottom?
A Troposphere – Stratosphere – Mesosphere – Thermosphere – Exosphere
B Thermosphere – Stratosphere – Troposphere – Mesosphere – Exosphere
C Exosphere – Thermosphere – Mesosphere – Stratosphere – Troposphere
D Exosphere – Mesosphere – Thermosphere – Stratosphere – Troposphere

( )

83 Which layer of the atmosphere is responsible for aurora formation?
A Ozone layer
B Stratosphere
C Exosphere
D Ionosphere

( )

84 Which of the following mentioned layers is NOT a homosphere?
A Exosphere
B Troposphere
C Ionosphere
D Mesosphere

( )

85 The planetary boundary layer belongs to which of the following atmospheric layers?
A Exosphere

B Ionosphere
C Stratosphere
D None of the mentioned

( )

86 What is the atmospheric pressure at sea level?
A 101325 Pa
B 14.696 psi
C 760 Torr
D All of the mentioned

( )

87 By international convention, which line marks the outermost boundary of the Earth's atmosphere?
A Space line
B Boundary line
C Karman line
D Astronaut line

( )

88 By how much has atmospheric carbon dioxide concentration increased ever since the Industrial Revolution?
A 20%
B 10%
C 40%
D 60%

( )

89 Which is the most abundant greenhouse gas in the atmosphere?
A Carbon dioxide
B Water vapour
C Methane
D Nitrogen

( )

90 What does the phrase "anthropogenic CO2 emissions" mean?
A Human made CO2 emissions
B Industrial CO2 emissions
C Natural CO2 emissions
D All of the mentioned

( )

91 Which of the following is the largest sink for carbon dioxide gas?
A Forests
B Oceans
C Ice sheets
D Grasslands

( )

92 Apart from Earth, which other celestial body(s) exhibits greenhouse gas effect?

A Venus
B Mars
C Titan
D All of the mentioned

( )

93 Which of the following bodies in the solar system has anti-greenhouse effect?
A Jupiter
B Mars
C Titan
D Venus

( )

94 Which of the following radiations of the sun do greenhouse gases trap?
A Visible radiations
B Infrared radiations
C UV radiations
D All the radiations

( )

95 What does “airborne fraction” with respect to greenhouse gases indicate?
A Amount of greenhouse gases that are released into air due to industrial process
B Proportion of greenhouse gases in air to all the other atmospheric gases
C Proportion of greenhouse gas emission that remain even after a specified time
D None of the mentioned

( )

96 What does GWP in the context of greenhouse gases indicate?
A Global Warming Parameters
B Gradual Warming Pattern
C Global Warming Patterns
D Global Warming Potential

97 Below which of the following pH is rain regarded as ‘acid rain’? ( )

A 7
B 7.3
C 5.6
D 6

( )

98 Glass containers are generally not preferred for sampling rain water. Why?
A Glass containers are expensive
B Glass containers are not easy to maintain
C Glass containers affect the pH of the rain water
D All of the mentioned

( )

99 Which of the following gases are main contributors to acid rain?
A Carbon dioxide and carbon monoxide

B Sulphur dioxide and carbon dioxide
C Sulphur dioxide and nitrogen dioxide
D Sulphur dioxide and nitrous oxide

( )

100 What does the term “liming” mean?
A Application of magnesium and calcium rich substances to soil
B Erosion of calcium carbonate(lime) zones in soil
C Excessive growth of lemon trees in acid rain prone regions
D None of the mentioned

( )

101 Which place in India receives the highest annual rainfall?
A awsynram
B Cherrapunji
C Siju
D Phyllut

( )

102 Who discovered the phenomenon of acid rain?
A George Brown
B James T. StewartB
C Robert Angus SmiDth
D Charles David

( )

103 Which of the following is/are natural contributor(s) to sulphur dioxide in the atmosphere?
A Sea sprays
B All of the mentioned
C Decaying vegetation
D Volcanic eruption

( )

104 What is the pH required for the survival of aquatic animals and plants?
A 7
B 7.5
C 6.5
D 4.8

( )

105 Which of the following gases is responsible for the yellowing of the TajMahal?
A Organic carbon
B Black carbon
C Brown carbon
D All of the mentioned

( )

106 What is the average concentration of ozone in the ozone layer of the atmosphere?

A Nearly 100%
B Greater than 90%
C Between 10-50%
D Less than 10ppm

( )

107 Who discovered the ozone layer?
A Henri Buisson & Charles Fabry
B Carl Sagan & Charles Fabry
C G.M.B Dobson
D Carl Sagan &G.M.B Dobson

( )

108 Which of the following devices can be used to measure ozone in the tratosphere from the ground?
A Spectrometer
B Photometer
C Spectrophotometer
D Spectro-ozonometer

( )

109 The ozone layer absorbs what range of wavelengths of the sun's radiation?
A 0.80 nm – 1.50 nm
B 200 nm – 315 nm
C 450 nm – 570 nm
D 600 nm – 750 nm

( )

110 Who discovered the formation of ozone from photochemical reactions?
A G.M.B Dobson
B Sydney Chapman
C Carl Sagan
D Henri Buisson

( )

111 Between what altitudes, is the ozone layer found in highest concentrations?
A 10-20km
B 20-40km
C 40-55km
D 55-70km

( )

112 Which of the following UV radiations is responsible for causing sun burns and skin cancer?
A UV-A
B UV-B
C UV-C
D All of the mentioned

( )

113 In which season is the ozone found at its maximum level in the northern hemisphere?

A Winter
B Summer
C Spring
D Autumn

( )

114 When was the ozone hole discovered?

A 1974
B 1964
C 1994
D 1984

( )

115 The ozone hole is a phenomenon that has occurred in:

A Arctic region
B Northern temperate region
C Southern temperate region
D None of the mentioned

( )

116 Which of the following chemicals are responsible for the depletion of the stratospheric ozone layer?

A Refrigerants
B Propellants
C Foam-blowing agents
D All of the mentioned

( )

117 What does EESC stand for in context of ozone depleting compounds?

A Equivalent Effective Stratospheric Chlorine
B Equivalent Effective Stratospheric Chlorofluorocarbons
C Equivalent Energy Saving Compounds
D Energy Effective Stratospheric Compounds

( )

118 The Montreal Protocol bans the production of which of the following chemical substances?

A Chlorine, bromine, CFCs, freons
B Carbon tetrachloride, halons, trichloroethane, CFCs
C CFCs, bromine, halons, freons
D CFCs, halons, freons

( )

119 What is the size range of respirable suspended particulate matter?

A Less than 1 micrometre
B Less than 10 micrometre
C Less than 100 micrometre

D Less than 0.1 micrometre

( )

120 Which of the following is a viable particulate?

A Smoke

B Mist

C Dust

D Moulds

( )

121 Which type of particulate is condensed form of vapours?

A Mist

B Dust

C Fumes

D Smoke

( )

122 What is the composition of photochemical smog?

A Nitrogen oxides, ketones and ozone

B VOCs and hydrocarbons

C Peroxy-acetyl-nitrate, peroxy-benzoyl-nitrate, peroxyfornyl-nitrate

D All of the mentioned

( )

123 Which of the following constituent of photochemical smog causes the bronzing of plants?

A PBN

B PAN

C PFN

D Ketones

( )

124 What is the reason behind the yellow colour of smog?

A Nitrogen dioxide

B Sulphur dioxide

C Sulphate ions

D Nitrate ions

( )

125 Which of the following aerosols have the best absorbing properties?

A Carbon black

B Soot

C Elemental Carbon

D All of the mentioned

Signature of the Faculty **Signature of the HOD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech–VSem (MR 172017-18Admitted Students)
I Mid Examination, Jan 2020

Subject: Cellular and Mobile Communications **Branch: ECE**

Subject Code: 70422 **Max. Marks: 25**

Time Duration: 90 Minutes

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Module I

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Explain the Limitations of Conventional Mobile Systems?	Understanding	1
	OR		
2.	Explain Basic cellular system with neat diagram	Understanding	1
3.	Explain the co channel interference reduction factor	Applying	1
	OR		
4.	Develop the desired C/I from normal case in an Omni directional antenna system	Applying	1
5.	Analyze the concepts of fading in detail	Analysing	1
	OR		
6.	Analyze the concepts of Cell splitting and Cell Sectoring & microcell zone	Analysing	1
7.	Explain the generations of cellular wireless system	Understanding	1
	OR		
8.	Explain the concept of frequency reuse	Understanding	1

Module II

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Explain the significance of Co- channel interference?	Understanding	2
	OR		
2.	Explain the significance of adjacent channel interference?	Understanding	2

3.	Develop an expression for measurement of real time co-channel interference.	Applying	2
	OR		
4.	Discuss in detail about the effects of antenna parameters on Co - channel Interference	Applying	2
5.	Describe antenna system design	Applying	2
	OR		
6.	Write about various fading effects in mobile radio system	Applying	2
7.	What the significance of Diversity in wireless communications? Explain any two Diversity Techniques.	Analyzing	2
	OR		
8.	Discuss in detail about the concept of cross talk	Analyzing	2

Module III

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Explain about Adjacent channel interference and Near End Far End Interference	Understanding	3
	OR		
2.	Explain the effect of decreasing antenna height and decreasing power on coverage and Interference	Understanding	3
3.	Describe the concept of Frequency Reuse	Applying	3
	OR		
4.	What are the various effects of cell site components	Applying	3

Signature of Faculty member **Signature of HOD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech–III-IISem (MR 17 2019-20Admitted Students)

I Mid Examination, Jan 2020

Subject: Cellular and Mobile Communications

1 In conventional mobile telephone system, the frequency utilization measurement M0 is defined()

(a) No. of channels / channel (b)No. of customers / channel

(c)No. of channels / customer (d)None

2 The average calling time is ()

(a)1.76 min (b)1.79 min

(c)1.78 min (d)1.77 min

3 FCC allocated a 40-MHz system at _____ to mobile radio cellular systems. ()

a) 700MHz
b) 900MHz
c) 600MHz
d) 80

4 In basic cellular system, the interface between the telephone company zone offices is called

(a)Mobile unit (b)Cell site

(c)Mobile telephone system (d)Mobile Telephone Switching Office

5 In the mobile radio environment the relation between received carrier power(C) and distance(R) is given by ()

a) C α R-4
b) C α R-6
c) C α R-5
d) None

6 For K=7, what is the co-channel interference reduction factor (q) for analytical solution? ()

a) 4.46
b) 4.45
c) 4.47
d) 4.4

7 What is the co-channel interference reduction factor(qk) with kth co-channel interference cell()

a) D/R

b) Dk/R
c) Dk/Rk
d) D/Rk

8 What must be the normal C/I ratio measured by the acceptance of voice quality from present cellular mobile receivers

a) 17 dB
b) 18 dB
c) 19 dB
d) 20 dB

9 If the total number of channels are divided into two network systems serving in the same area, the spectrum inefficiency

a) Increases
b) Decreases
c) Remains constant
d) Non

10 In the fully equipped hexagonal shaped cellular system, there are always ____ channels interfering cells in the first tier.

a) 4
b) 5
c) 6
d) 7

11 The _____ is the heart of the cellular system

a) Mobile unit
b) Cell site
c) Mobile telephone system
d) Mobile Telephone Switching Office

12 Paging systems are based on

a) Simplex systems
b) Half duplex systems
c) Full duplex systems
d) None

13 Co channel interference from second tier cells is

a) Increases
b) Decreases
c) Remains constant
d) None

14 Frequency reuse distance is given by

a) √3k R
b) √3k /R
c) 3k R
d) None

15 Interference due to common use of same channel is called

a) Co channel interference
b) Adjacent channel interference
c) Both
d) None

16 The average of CM scores from all the listeners is called

a) Mean opinion score
b) Grade score
c) CM score
d) None

17 The process of transferring a mobile station from one base station to another is

a) MSC
b) Roamer
c) Handoff
d) Forward channel

18 DECT stands for

a) Digital European Cellular Telex
b) Digitized Emergency Cellular Telephone
c) Digital European Cellular Telephone
d) Digital European Cordless Telephone

19 The early FM push-to-talk telephone systems were used in

a) Simplex
b) Half duplex
c) Full duplex
d) None

20 Paging systems could be used to

a) Send numeric messages
b) Send alphanumeric messages
c) Voice message
d) All of the above

21 MIN stands for

a) Mobile Identification Number

b) Mobile Internet
c) Mobile In Network
d) None

22 Frequency reuse in time domain results in occupation of same frequency in different time slots results in

a) Time Division Multiplexing
b) Frequency Division Multiplexing
c) Both
d) None

23 PCN is

a) Wireless concept of making calls
b) For receiving calls
c) Irrespective of the location of the user
d) All of the above

24 2G standards support

a) Limited internet browsing
b) Short Messaging Service
c) Both a & b
d) None

25 Commonly used mode for 3G networks is

a) TDMA
b) FDMA
c) TDD
d) FDD

26 The interference between the neighboring base stations is avoided by

a) Assigning different group of channels
b) Using transmitters with different power level
c) Using different antennas
d) All of the above

27 Radio capacity may be increased in cellular concept by

a) Increase in radio spectrum
b) Increasing the number of base stations & reusing the channels
c) Both a & b
d) None

28 The shape of the cellular region for maximum radio coverage is

a) Circular

b) Square
c) Hexagon
d) Oval

29 Spectrum Efficiency of a cellular network is

a) The traffic carried by whole network
b) The traffic carried per cell divided by the bandwidth of the system and the area of a cell
c) Both
d) None

30 The advantage of using frequency reuse is

a) Increased capacity
b) Limited spectrum is required
c) Same spectrum may be allocated to other network
d) All of the above

31 The strategies acquired for channel assignment are

a) Fixed
b) Dynamic
c) BOTH
d) None

32 In a fixed channel assignment strategy, if all the assigned channels are occupied, the call

a) Gets transferred to another cell
b) Gets blocked
c) Is kept on waiting
d) All of the above

33 In a fixed channel assignment strategy

a) Each cell is assigned a predetermined set of frequencies
b) The call is served by unused channels of the cell
c) The call gets blocked if all the channels of the cell are occupied
d) All of the above

34 In a dynamic channel assignment strategy,

a) Voice channels are not permanently assigned
b) The serving base station requests for a channel from MSC
c) MSC allocates the channel according to the predetermined algorithm
d) All of the above

35 Advantage of using Dynamic channel assignment is

a) Blocking is reduced
b) Capacity of the system is increased

c) Both a & b
d) None of the above

36 In Handoff

a) Process of transferring the call to the new base station
b) Transfers the call
c) New channel allocation is done
d) All of the above

37 Trunking in a cellular network refers to

a) Spectrum unavailability
b) Termination of a call
c) Accommodating large number of users in limited spectrum
d) All of the above

38 Interference in frequency bands may lead to

a) Cross talk
b) Missed calls
c) Blocked calls
d) All of the above

39 Co-channel reuse ratio depends upon

a) Radius of the cell
b) Distance between the centers of the co channel cells
c) Both a & b
d) None

40 Grade of service refers to

a) Accommodating large number of users in limited spectrum
b) Ability of a user to access trunked system during busy hour
c) Two calls in progress in nearby mobile stations
d) High speed users with large coverage area

41 Traffic intensity is expressed in

a) Erlangs /MHz /km2
b) Erlangs
c) λ/ sec
d) dB/sec

42 The techniques used to improve the capacity of cellular systems are

a) Splitting
b) Sectoring
c) Coverage zone approach
d) All of the above

43 Coherence time refers to

a) Time required to attain a call with the busy base station
b) Time required for synchronization between the transmitter and the receiver
c) Minimum time for change in magnitude and phase of the channel
d) None of the above

44 Centre excited hexagonal cells use

a) Sectored directional antennas
b) Omni directional antennas
c) Yagi-uda antennas
d) None of the above

45 Half duplex system for communication has

a) Communication in single direction
b) Communication in single direction at a time
c) Communication in both directions at the same time
d) None of the above

46 The early FM push-to-talk telephone systems were used in

a) Simplex mode
b) Half duplex mode
c) Full duplex mode
d) None of the above

47 Offered load is given by

a) A=(1.76/Qi)*60
b) A=(1.76*Qi)/60
c) A=(1.76+Qi)/60
d) A=(1.76*Qi)-60

48 Coherence time refers to

a) Time required to attain a call with the busy base station
b) Time required for synchronization between the transmitter and the receiver
c) Minimum time for change in magnitude and phase of the channel
d) None of the above

49 Coherence time is

a) Directly proportional to Doppler spread

b) Indirectly proportional to Doppler spread
c) Directly proportional to square of Doppler spread
d) Directly proportional to twice of Doppler spread

50 For C/I=18dB, the co-channel interference reduction factor for analytical solution

a) 4.98

b) 4.76

c) 4.41

d) 4.56

51 Measurement of the real time co-channel interference at mobile radio receivers is given by

a. $e(t) = R \sin (wt+\Psi)$

b. $e(t) = R \cos (wt+\Psi)$

c. $e(t) = \sin (wt+\Psi)$

d. $e(t) = \cos (wt+\Psi)$

52 In the design of Omni directional antenna system in the worst case, the C/I ratio in dB is

a) 15

b) 14.47

c) 18

d) 17.35

53 For K=12, the q value and C/I ratio are given by

a) 6, 22.54 dB

b) 4.6, 22.54 dB

c) 6, 19.25 dB

d) 3.46, 19.25 dB

54 In a six sector case of design of directional antenna, the angle allocated to each antenna is

a) 1200

b) 900

c) 600

d) 450

55 How much will be the reduction in the gain if antenna height is lowered on the hill?

a) 5 dB

b) -12 dB

c) 0 dB

d) 8 dB

56 SINAD stands for

a) Sine and distortion

b) Sine and disturbance

c) Signal to noise and disturbance

d) Signal to noise and distortion ratio

57 In which sector case, more antennas and handoffs are needed?

a) Six sector

b) Three sector

c) Four sector

d) All of these

58 In narrow beam applications or portable cellular systems, which pattern is used?

a) K=7

b) K=44

c) K=9

d) K=12

59 On a high spot, what is the effective antenna height?

a) H

b) H+h1

c) h

d) None of these

60 The causes of near-end-far-end interference of concern here are

a) Interference caused on the set-up channels

b) Interference caused on the voice channels

c) Both of these

d) None

61 If C/I < 18db and C/N >18db in some areas , then there is _____

a) Co-channel interference

b) Co-channel interference & coverage problem

c) Coverage problem

d) None

62 Reciprocity theorem can be applied for _____ but not for _____

a) Single source network

b) Multi source network

c) Both

d) None

63 In an omni-directional cell system, K = _____ or K = _____ would be a right choice.

a) 6 &

b) 4 & 5

c) 9 & 12

d) None

64 Which is used for compensating channel fading impairments

a) Channel combiner

b) Delay spread

c) Co-channel interference

d) All of the above

65 Adjacent channel interference is a combination of _____ and _____ interference.

a) Next channel inference & near channel inference

b) near channel inference & neighboring channel inference

c) Next channel inference & neighboring channel inference

d) None

66 _____ can occur when one mobile unit is close to cell site and the other is far from cell site.

a) Near-end-far-end interference

b) Next channel inference

c) neighboring channel interference

d) All of these

67 Channel combiner is used to combine different channels with minimum _____ and maximum _____ between channels.

a) Signal isolation & dispersion

b) Deletion loss & signal isolation

c) Insertion loss & signal isolation

d) Dispersion & isolation

68 SAT is _____

a) Supervisory Audio Tone

b) Subscriber Audio Telephone

c) Superb Audio Tone

d) Satellite Antenna Tower

69 Umbrella cell approach

a) Uses large and small cells

b) Uses different antenna heights

c) Is used for high speed users with large coverage area and low speed users with small coverage area

d) All of the above

70 Interference in cellular systems is caused by

a) Two base stations operating in same frequency band

b) Two calls in progress in nearby mobile stations

c) Leakage of energy signals by non cellular systems into cellular frequency band

d) All of the above

71 Increase in Co- channel reuse ratio indicates

a) Better transmission quality

b) Low co-channel interference

c) Both a and b

d) None

72 In time diversity

a) Multiple versions of signals are transmitted at different time instants

b) The signal is transmitted using multiple channels

c) Signal is transmitted with different polarization

d) All of the above

73 The antenna parameter which is used to reduce interference from neighboring cells is by

a) Tilting

b) Beam width

c) Directivity

d) None

74 The amount of interference carried by six channels in second tier for the center cell site is

a) Same as first tier channel interferes

b) Negligible

c) Greater than first tier channel interferes

d) None

75 If C/I and C/N both less tha 18dB then there will be

a) Coverage problem

b) Co channel interference

c) Both

d) None

76 Frequency diversity employed in microwave links which carry several channels in _____ mode

a) TDM

b) FDM

c) TDMA

d) FDMA

77 RAKE Receiver uses _____ diversity technique

a) Space

b) Frequency

c) Time

d) Polarization

78 Time diversity _____ spread spectrum technique

a) FDMA

b) CDMA

c) TDMA

d) NONE

79 The number of calls /cell depends on

a) Size of cell

b) Traffic in the cell

c) Both

d) None

80 As the frequency reuse distance increases the co channel interference

a) Increases

b) Decreases

c) Remains same

d) None

81 The spectrum efficiency of frequency reuse system compared to normal system is

a) More

b) Less

c) Remains same

d) None

82 The no. of co channel interfering cells in first tier in fully equipped hexagonal system is

a) 6

b) 4

c) 5

d) 7

83 The co channel reduction factor is given by

a) DR b)R/D c)D/R d)D+R

84 The new cell radius when the old cell is splitted is

a) Old cell radius-2

b) Old cell radius*2

c) Old cell radius/2

d) Old cell radius+2

85 The antenna parameter which effect the area and coverage shape of system is

a) Directivity

b) Height

c) Beam width

d) All of these

86 In a 3 sector case the interference is effective only in

a) One direction

b) Two direction

c) Multi direction

d) None

87 The propagation path loss increases with increase in

a) Wavelength

b) Bandwidth

c) Distance

d) None

88 MIN Stands for.( )

A) Mobile Identification Number

B) Mobility in Network

C) Mobile Internet

D) None of the above

89 DECTS Stands for ( )

A) Digital European Cellular Telex

B) Digital European Cordless Telephone

C) Digitized Emergency Cellular Telephone

D) Digital European Cellular Telephone

90 _____introduced Frequency Modulation for mobile communication systems in 1935 ( )

A) Edwin Armstrong

B) Albert Einstein

C) Galileo Galilei

D) David Bhom

91 World's first cellular system was developed by ( )

A) Nippon Telephone and Telegraph (NTT)

B) Bellcore and Motorola

C) AT&T Bell Laboratories

D) Qualcomm

92 The process of transferring a mobile station from one base station to another is ( )

A) MSC B) Roamer C) Hand off D) Forward channel

93 The 2G cellular network uses ( )

A) DMF

B) CDMA/FDD

C) TDMA/FDD

D) All

94 Commonly used mode for 3G networks is ( )

A)TDMA

B) FDMA

C) FDD

D) TDD

95 The shape of the cellular region for maximum radio coverage is _____ ( )

A) Circular

B) Square

C) Hexagon

D) Oval

96 Interference in frequency bands may lead to ( )

A)Cross Talk

B) Missed call

C) Blocked call

D) ALL

97 Traffic intensity is expressed in ( )

A) Erlangs /MHz /km^2

B) Erlangs

C) λ/ sec

D) dB/sec

98 Direct sequence spread spectrum demodulation uses ( )

A)DPSK

B) FSK

C) QPSK

D) ASK

99 Centre excited hexagonal cells use. ( )

A) Sectored directional antennas

B) Omni directional antennas

C) Yagi uda antennas

D) None of the above

100 Diversity employs the decision making at ( )

A) Transmitter and receiver

B) Transmitter

C) Receiver

D) Communication channel

101 The digital modulation technique used in frequency selective channels is ( )

A)QPSK

B) BPSK

C) ASK

D) FSK

102 Cable television is an example of ( )

A)TDMA B) FDMA

C) CDMA

D) SDMA

103 In the straight line path loss slope, the received power can be expressed as

a) $P\gamma = P - \gamma \log (r/r0)$

b) $P\gamma = P0 - \log (r/r0)$

c) $P\gamma = P0 - \gamma \log (r/r0)$

d) $P\gamma = P0 - \gamma \log (r0)$

104 The mean level obtained along the path-loss slope is given by

a) $A= \gamma \log (r1/r0)$

b) $A= P0 - \gamma \log (r1/r0)$

c) $A= P0 - \log (r1/r0)$

d) $A= P0 - \gamma \log (r0)$

105 When the terrain contour blocks the direct wave path, we call it the

a) Direct wave path

b) Obstructive path

c) Line-of-sight

d) None

106 The angle of wave arrival pointing to ground is

a) Ground Incident Angle

b) Ground refracted angle

c) Ground reflected angle

d) None of these

107 Loss occurred by trees is called

a) Free space path loss

b) Ground path loss

c) Foliage loss

d) Propagation path los

108 Which of the following is used to reduce both the co-channel and long distance interference

a) Umbrella pattern

b) Directional antenna

c) Omni-directional antenna

d) None of the ab

109 The diversity scheme reduces the power at the mobile unit by an amount of

a) 7 dB

b) 9dB

c) 12 dB

d) 10 dB

110 The cell site transmitted power is decreased by 3 dB then the reception at mobile unit is

a) Decreased by 9 dB

b) Decreased by 12dB

c) Decreased by 10 dB

d) None

124 To reduce the fading the following type of receiver used is

a) Diversity

b) Directional antenna

c) Deflected system

d) None

125 the differences in area-to-area prediction curves are due to

a) Different man-made structures

b) natural calamities

c) Both

d) None

Signature of the faculty signature of the H.O.D

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech–ECE- VI Sem (MR 17 Students)

I Mid Examinations Subjective Question Bank

Subject: Data Communications and Computer Networks **Branch: ECE**

Subject Code: 70433 **Max. Marks: 05**

Name of the Faculty: Dr. S. Madhu Babu, Dr. K. Rajendra Prasad

Q.No.	Question	Bloom's Taxonomy Level	CO
Module-I			
1.	Explain the data communications model with neat figure.	Understanding	1
	OR		
2.	Explain the need for protocol architecture.	Understanding	1
3.	Explain ISO-OSI layer model in detail.	Understanding	1
	OR		
4.	Explain TCP/IP network model in detail.	Understanding	1
5.	Explain various network topologies with sketches.	Understanding	1
	OR		
6	Classify networks based on the geographical area.	Understanding	1
7	What are different types of transmission modes? Explain them with necessary diagrams.	Understanding	1
	OR		
8	Explain the operation of TCP and IP with neat sketch.	Understanding	1
Module-II			
1	Compare circuit-switching, virtual-circuit based packet-switching and datagram based packet-switching techniques.	Understanding	2
	OR		
2	Explain frame relay network with neat sketches.	Understanding	2
3	Explain different packet-switching techniques with the help of diagrams.	Understanding	2
	OR		
4	Explain the architecture of ATM network.	Understanding	2

5	What are the different ATM service categories? Explain them.	Understanding	2
	OR		
6	Explain X.25 architecture.	Understanding	2
7	Explain about ATM logical connections.	Understanding	2
	OR		
8	Explain the operation of soft-switch architecture of circuit switching.	Understanding	2
Module-III			
1	What are various issues to be considered while designing data-link layer? Explain in detail.	Understanding	3
	OR		
2	Explain Go back-N and Selective Repeat protocols.	Understanding	3
3	Explain Stop and Wait and Sliding window protocols.	Understanding	3
	OR		
4	Explain error control and flow control mechanisms in detail.	Understanding	3

Signature of Faculty **Signature of HoD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech–ECE- VI Sem (MR 17 Students)

I Mid Objective Question Bank

Subject: Data Communications and Computer Networks **Branch: ECE**

Subject Code: 70433 **Max. Marks: 05**

Name of the Faculty: Dr. S. Madhu Babu, Dr. K. Rajendra Prasad

1. What is the minimum number of wires needed to send data over it serial communication link layer? [ ]

(A) 1 (B) 2 (C) 3 (D) 4

2. Which data communication method is used to send data over a serial communication link?

[ ]

(A) simplex (B) half duplex (C) full duplex (D) all of these

3. The interactive transmission of data within a time sharing system may be best suited to…..

[ ]

(A) simplex line (B) half duplex lines (C) full duplex line (D) bi-flex lines

4. What is the main difference between synchronous and asynchronous transmission?

[ ]

(A) band width required is different. (B) pulse height is different

(C) clocking is derived from the data in synchronous transmission.

(D) clocking is mixed with data in asynchronous transmission.

5. how many bits per symbol are used in the Baudot code? [ ]

(A) 5 (B) 7 (C) 8 (D) 9

6. Which of the following transmission systems provides the highest data rate to an individual device?

[ ]

(A) Digital PBX (B) Computer Bus (C) LAN (D) Voiceband mode

7. One important characteristic of LAN is… [ ]

(A) parallel transmission (B) low cast access for low bandwidth channel

(C) unlimited expansion (D) application independent interfaces

8. Which of the following is possible in a token passing bus network? [ ]

(A) Unlimited number of stations (B) Unlimited distance

(C) In-service expansion (D) Multiple time-division channels

9. Which of the following is not a characteristic of the hub architecture of Arc net? [ ]

(A) Directionalized transmission (B) Alternative routing

(C) Zero insertion loss amplifier (D) RIM port isolation

10. How many OSI layers are covered in the X.25 standard? [ ]

(A) three (B) four (C) two (D) seven

11. A protocol is a rule governing a time sequence of events that must take place. [ ]

(A) between peers (B) across an interface

(C) between non-peers (D) none of these

12. Layer one of the OSI model is……. [ ]

(A) physical layer (B) link layer

(C) transport layer (D) network layer

13. What is the main purpose of a data link content monitor? [ ]

(A) measurement of bit error rate. (B) Determine the type of switching used in a data link.

(C) Determine the type of transmission used in a data link.

(D) Detect problems in protocols.

14. Protocol converters are …… [ ]

(A) same as multiplexers (B) same as TDMs

(C) usually not operated in pairs (D) usually operated in pairs

15. In OSI network architecture, the dialogue control, and token management are responsibilities of …... [ ]

(A) data link layer (B) network layer (C) transport layer (D) session layer

16. Which of the following is not an example of data communication? [ ]

(A) A teletype printing news bulletins.

(B) A computer transmitting files to another computer

(C) An automatic teller machine checking account balance with the bank's computer

(D) A salesman telephoning orders to the office

17. Communications software package enable users to access services such as… [ ]

(A) electronic mail (B) electronic bulletin boards

(C) video channels (D) both (A) and (B)

18. Which of the following are parameters that must be set in your software and modem before you can begin communications? [ ]

(A) speed (B) character format (C) duplex (D) both (A) and (B)

19. The forms of information that may be sent electronically are…. [ ]

(A) voice (B) data (C) vide (D) all of these

20. The basic component necessary for communication is a …… [ ]

(A) computer terminal (B) modem(C) communications software (D) all of these

21. The physical path that is used for sending information is called. [ ]

(A) channel (B) line (C) link (D) all of these

22. A half-duplex communication channel permits information to travel… [ ]

(A) both ways at once (B) both ways, but not at once

(C) one direction only (D) at timed intervals

23. Which of the following methods provides dedicated communications channel between two stations? [ ]

(A) Switch network (B) Circuit switching (C) Packet switching (D) None of these

24. Internet address can be used to refer to networks as well as individual hosts. By convention, the network address has hosted with all bits. [ ]

(A) 0 (B) 1 (C) combinations of 0 and 1 (D) none of these

25. Synchronous protocols. [ ]

(A) transmit characters one at a time.

(B) allow faster transmission than asynchronous protocols do.

(C) are generally used by personal computers.

(D) all of these

26. A network that requires human intervention to route signals is called. [ ]

(A) bus network (B) ring network (C) star network(D) T-switched network

27. Local area network can transmit…. [ ]

(A) faster than telecommunications over public telephone lines.

(B) slower than telecommunications over public telephone lines.

(C) using twisted-pair wiring or coaxial cables

(D) both (A) and (C)

28. A local area network…. [ ]

(A) that connects thirty personal computers can provide more computing power than a minicomputer.

(B) cannot become bogged down like a mainframe if the load is too high..

(C) both (A) and (B)

(D) none of these.

29. Server is a computer which provides resources other computers commuted in a ..... [ ]

(A) network (B) mainframe (C) super computers (D) clients

30. LAN, WAN and MAN are computer networks covering different are Their first alphabets L, W and M respectively stand for [ ]

(A) Local, Wide and Metropolitan

(B) Long, Wireless and Metropolitan

(C) Local, world and Middle

(D) Least, Wireless and Maximum

31. In.....topology, network comments are connected by only one cable [ ]

(A) Star (B) Ring (C) Bus (D) Mesh

32. On the large scale, geographically spreaded LAN's office are connected by using [ ]

(A) CAN (B) LAN (C) DAN (D) WAN

33. Computer connected with LAN..... [ ]

(A) work fast (B) go online (C) can e-mail (D) can share information or peripheral devices

34. LAN is useful for..... [ ]

(A) railway (B) bank (C) businessman (D) transport

35. The first computer network of the world is..... [ ]

(A) I net (B) NSF net (C) Arpanet (D) V net

36. Which of the following techniques needs source device and destination device in line of sight for data transfer? [ ]

(A) LAN (B) Bluetooth (C) WAN (D) Infrared

37. When more computers are connected at one place, it is called [ ]

(A) LAN (B) WAN (C) Infinite (D) WON

38. Bank's ATM facility is an example of..... [ ]

(A) LAN (B) WAN (C) Mixed networking (D) Multipurpose

39. WAN is not useful for - [ ]

(A) Ministry of Foreign affair (B) Foreign banks

(C) Municipality (D) Airport

40. Multipoint topology is [ ]

(A)Bus (B)Star (B)Mesh (D) Ring

41.In mesh topology, the devices are connected via [ ]

(A)Multipoint link (B) Point to point link (C)No Link (D)None of the above

42.Bus, ring and star topologies are mostly used in the [ ]

(A)LAN (B)MAN (C) WAN (D) Internetwork

43.Components used for interconnecting dissimilar networks that use different communication protocols. [ ]

(A) Switches (B) Gateways (C) Routers (D) Bridges

44. Components that operate at the network layer of the OSI model [ ]

(A) Switches (B) Servers (C) Routers (D) Gateways

45. A topology that involves Tokens. [ ]

(A)Star (B) Ring (C) Bus (D) Daisy Chain

46. _____ operates at bottom two layers of the OSI model. [ ]

(A)Bridges (B) Switches (C) Models (D) Modules

47. What layer in the TCP/IP stack is equivalent to the transport layer of the OSI model? [ ]

(A) Application (B) host to host (C) Internet (D) Network access

48. Which of the following protocols uses both TCP and UDP? [ ]

(A) FTP (B) SMTP (C) Telent (D) DNS

49. Length of port address in TCP/IP is _____ [ ]

(A) 4-bit long (B) 16-bit long (C) 32-bit long (D) 8-bit long

50. TCP/IP layer is equivalent to combined Session, Presentation and _____ [ ]

(A) Network (B) Application (C) Transport (D) Physical

51. A local telephone network is an example of a _____ network. [ ]

(A) Packet switched (B) Circuit switched

(C) Both Packet switched and Circuit switched (D) Line switched

52. What are the Methods to move data through a network of links and switches? [ ]

(A) Packet switching (B) Circuit switching

(C) Line switching (D) Both Packet switching and Circuit switching

53. The resources needed for communication between end systems are reserved for the duration of the session between end systems in _____ [ ]

(A) Packet switching (B) Circuit switching (C) Line switching (D) Frequency switching

54. As the resources are reserved between two communicating end systems in circuit switching, this is achieved _____ [ ]

(A)authentication (B) guaranteed constant rate (C) reliability (D) store and forward

55. In _____ resources are allocated on demand. [ ]

(A)packet switching (B) circuit switching (C) line switching (D) frequency switching

56. Which of the following is an application layer service? [ ]

(A) Network virtual terminal (B) File transfer, access, and management

(C) Mail service (D) All of the mentioned

57. Actual communication in a circuit-switched network requires [ ]

(A)one phase (B) two phases (C) three phases (D) four phases

58. Setup, data transfer and connection teardown are three phases of [ ]

(A)circuit switching (B) packet switching (C) message switching (D) None

59. Circuit switching takes place at the [ ]

(A)session layer (B)application layer (C)data link layer (D) physical layer.

60. In Circuit Switching, the resources need to be reserved during the [ ]

(A)Data transfer phase (B)teardown phase. (C)setup phase (D)propagation phase

61. There are two popular approaches to _____ switching: the datagram approach and the virtual circuit approach. [ ]

(A)circuit (B)packet (C)message (D) both b and c

62. In the virtual circuit approach to packet switching, _____ packets of a message follow the same route from sender to receiver. [ ]

(A)no (B)some (C) all (D)at least half

63. In the _____ approach to packet switching, all packets of a message follow the same route from sender to receiver [ ]

(A)datagram (B) virtual circuit (C)virtual channel (D)virtual path

64. A message from device A consists of packet X and packet Y. In the datagram approach to packet switching, packet Y's path _____ packet X's. [ ]

(A)is the same as (B)is dependent on (C) is independent of (D)is always different from

65. X.25 is a _____ protocol. [ ]

(A)LAN (B) WAN (C)MAN (D)none of the above

66. X.25 has _____ layers. [ ]

(A)three (B)two (C)one (D)four

67. X.25 protocol uses _____. [ ]

(A)its own physical layer (B)the physical layer of Ethernet

(C)the physical layer of Token Ring (D)none of the above

68. X.25 uses the _____ protocol at the data link layer. [ ]

(A)LAPD (B) LAPB (C)PLP (D)LAPX

69. The LAPB protocol is a version of the _____ protocol. [ ]

(A)SDLC (B)BSC (C)HDLC (D)none of the above

70. Hop-to-hop flow and error control in X.25 is done at the _____ layer [ ]

(A)physical (B)datalink (C)packet (D)both b and c

71. End-to-end flow and error control in X.25 is done at the _____ layer [ ]

(A)physical (B)datalink (C)packet (D) both b and c

72. Multiplexing in X.25 is done at the _____ layer. [ ]

(A)physical (B)data link (C) packet (D)transport

73. Frame Relay is designed mostly for _____. [ ]

(A)fixed-rate data (B)bursty data (C)voice grade data (D)none of the above

74. Virtual circuit identifiers in Frame Relay operate in the _____ layer. [ ]

(A)network (B) data link (C)transport (D)none of the above

75. A virtual circuit identifier in Frame Rely is called a _____. [ ]

(A)VCI (B)VPI (C)DLCI (D)none of the above

76. Frame Relay uses a simplified version of HDLC called _____. [ ]

(A)HDFR (B) LAPF (C)FRLAP (D)none of the above

77. Which of the following fields from HDLC is missing in LAPF? [ ]

(A)address (B)flag (C) control (D)FCS

78. A DLCI in Frame Relay is only _____ bits. [ ]

(A)8 (B)10 (C)6 (D)none of the above

79. The DLCI field in Frame Relay is divided into two subfields of _____ and _____ bits respectively. [ ]

(A)5; 5 (B)4; 6 (C) 6; 4 (D)none of the above

80. Which of the following best describes anATM network? [ ]

(A)All packets carry audio or video data. (B) All packets are the same size.

(C)The packet size is variable, but less than 4096 bytes. (D)all of the above

81. In anATM network, cells belonging to a single message _____. [ ]

(A)may follow different paths (B)may arrive out of order

(C)require extensive additional addressing and control information (D) follow the same path

82. Each ATM _____ contains a table to identify paths to other switches [ ]

(A)cell (B) switch (C) station (D) both a and b

83. The VPI identifies a _____. [ ]

(A)cell (B) station (C) virtual path (D) virtual packet

84. A cell's header in ATM has a _____ field. [ ]

(A) VPI (B) VCI (C) port (D) both a and b

85. An ATM cell consists of _____ bytes. [ ]

(A) 48 (B) 53 (C) 256 (D) a variable number of

86. The _____ layer in ATM accepts transmissions from upper-layer services. [ ]

(A) AAL (B) ATM (C) physical (D) SAR

87. The _____ layer adds a 5-byte header to a 48-byte segment in ATM network. [ ]

(A) AAL (B) ATM (C) physical (D) SAR

88. The physical layer in ATM is responsible for _____. [ ]

(A)defining the transmission medium (B) bit transmission

(C)encoding (D) all of the above

89. A transmission path can be divided into several _____ in ATM networks [ ]

(A) TPs (B) VPs (C) VCs (D) all of the above

90. All cells belonging to a single message follow the same _____. [ ]

(A) TP (B) VP (C) VC (D) none of the above

91. A virtual path may have _____ virtual circuit(s).

(A)no (B) exactly one (C) exactly two (D) several

92. ATM uses _____ [ ]

(A)asynchronous frequency division multiplexing (B) asynchronous time division multiplexing

(C)asynchronous space division multiplexing (D) asynchronous amplitude division multiplexing

93. ATM standard defines _____ layers. [ ]

(A) 2 (B) 3 (C) 4 (D) 5

94. ATM can be used for _____ [ ]

(A)local area network (B) wide area network

(C)campus area network (D) networks covering any range

95.An ATM cell has the payload field of _____ [ ]

(A) 32 bytes (B) 48 bytes (C) 64 bytes (D) 128 bytes

96. Frame relay has error detection at the _____ [ ]

(A)physical layer (B) data link layer (C) network layer (D) transport layer

97. Virtual circuit identifier in frame relay is called _____ [ ]

(A)data link connection identifier (B) frame relay identifier

(C)cell relay identifier (D) circuit connection identifier

98. In frame relay networks, extended address is used _____ [ ]

(A)to increase the range of data link connection identifiers (B) for error detection

(C)for encryption (D) for error recovery

99. ATM and frame relay are _____ [ ]

(A)virtual circuit networks (B) datagram networks

(C)virtual private networks (D) virtual public networks

100. Advantages of cell relay are [ ]

(A)high-speed transmission (B) multiplexing transmission

(C)both(A) and (B) (D) none of there

101. In the _____Protocol, if no acknowledgment for a frame has arrived, we resend all outstanding frames. [ ]

(A) Stop-and-Wait ARQ (B) Go-Back-N ARQ

(C) Selective-Repeat ARQ (D) none of the above

102. In the _____ protocol we avoid unnecessary transmission by sending only frames that are corrupted. [ ]

(A) Stop-and-Wait ARQ (B) Go-Back-N ARQ

(C) Selective-Repeat ARQ (D) none of the above

103. Both Go-Back-N and Selective-Repeat Protocols use a _____. [ ]

(A) sliding frame (B) sliding window

(C) sliding packet (D) none of the above

104. In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be _____. [ ]

(A) 15 (B) 16 (C) 31 (D) 1

105. In Go-Back-N ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____. [ ]

(A) 15 (B) 16 (C) 31 (D) 1

106. In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the send window must be _____. [ ]

(A) 15 (B) 16 (C) 31 (D) 1

107. In Selective Repeat ARQ, if 5 is the number of bits for the sequence number, then the maximum size of the receive window must be _____. [ ]

(A) 15 (B) 16 (C) 31 (D) 1

108. High-level Data Link Control (HDLC) is a _____ protocol for communication over point-to-point and multipoint links. [ ]

(A) bit-oriented (B) byte-oriented (C) character-oriented (D) none of the above

109. The most common protocol for point-to-point access is the Point-to-Point Protocol (PPP), which is a _____protocol. [ ]

(A) bit-oriented (B) byte-oriented (C) character-oriented (D) none of the above

110. _____ control refers to a set of procedures used to restrict the amount of data that the sender can send before waiting for acknowledgment. [ ]

(A) Flow (B) Error (C) Transmission (D) none of the above

111. _____control in the data link layer is based on automatic repeat request, which is the retransmission of data. [ ]

(A) Flow (B) Error (C) Transmission (D) none of the above

112. In Stop-and-Wait ARQ, we use sequence numbers to number the frames. The sequence numbers are based on _____arithmetic. [ ]

(A) modulo-2 (B) modulo-4 (C) modulo-m (D) none of the above

113. In Stop-and-Wait ARQ, the acknowledgment number always announces in _____ arithmetic the sequence number of the next frame expected. [ ]

(A) modulo-2 (B) modulo-4 (C) modulo-m (D) none of the above

114. In the Go-Back-N Protocol, if the size of the sequence number field is 8, the sequence numbers are in _____ arithmetic. [ ]

(A) modulo-2 (B) modulo- 8 (C) modulo-256 (D) none of the above

115. Stop-and-Wait ARQ is a special case of Go-Back-N ARQ in which the size of the send window is 1. [ ]

(A) 2 (B) 1 (C) 8 (D) none of the above

116. The Simplest Protocol and the Stop-and-Wait Protocol are for _____ channels. [ ]

(A) noisy (B) noiseless (C) either (A) or (B) (D) neither (A) nor (B)

117. The ____ Protocol has neither flow nor error control. [ ]

(A) Stop-and-Wait (B) Simplest (C) Go-Back-N ARQ (D) Selective-Repeat ARQ

118. The _____Protocol has flow control, but not error control. [ ]

(A) Stop-and-Wait (B) Simplest (C) Go-Back-N ARQ (D) Selective-Repeat ARQ

119. The _____Protocol has both flow control and error control. [ ]

(A) Stop-and-Wait (B) Go-Back-N ARQ (D) Selective-Repeat ARQ (D) both (B) and (C)

120. In the _____ Protocol, the sender sends its frames one after another with no regard to the receiver.

[ ]

(A) Stop-and-Wait (B) Simplest (C) Go-Back-N ARQ (D) Selective-Repeat ARQ

121. In the _____ Protocol, the sender sends one frame, stops until it receives confirmation from the receiver, and then sends the next frame. [ ]

(A) Stop-and-Wait (B) Simplest (C) Go-Back-N ARQ (D) Selective-Repeat ARQ

122. The _____Protocol, adds a simple error control mechanism to the _____Protocol.[ ]

(A) Stop-and-Wait ARQ; Stop-and-Wait (B) Go-Back-N ARQ; Stop-and-Wait

(C) Selective Repeat ARQ; Go-Back-N ARQ (D) none of the above

123. For Stop-and-Wait ARQ, for 10 data packets sent, _____ acknowledgments are needed.[ ]

(A) exactly 10 (B) less than 10 (C) more than 10 (D) none of the above

124. HDLC is an acronym for _____. [ ]

(A) High-duplex line communication (B) High-level data link control

(C) Half-duplex digital link combination (D) Host double-level circuit

125. Data link control deals with the design and procedures for _____ communication. [ ]

(A) node-to-node (B) host-to-host (C) process-to-process (D) none of the above

Signature of the Faculty **Signature of HoD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B. TECH II SEMESTER (MR-17) I Mid Examination Question Bank

Subject : Digital Signal Processing **Branch: ECE-A, B&C**

Name of the faculty: Dr.N. SubbuLakshmi / Dr. T. Srinivas Reddy / Mrs. C. Silpa

Subject Code : 70421

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

MODULE I

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Find out whether the given systems are Causal, linear and time invariant or not: i) $y(n)=x^2(n)$ ii)$y(n)=nx(n)$	Apply	1
	OR		
2.	Determine the total Response of the system described by the difference equation $y(n)-4y(n-1)+4y(n-2)=x(n)-x(n-1)$ when the input $x(n)$ is $(-1)^n u(n)$; with initial conditions $y(-1) =y(-2)=1$	Apply	1
3.	Calculate the impulse response and step response for the given system $y(n) + y(n-1) = x(n) – 2x(n-1)$	Apply	1
	OR		
4.	A digital system is characterized by the following difference equation $y(n) = ay(n-1) + x(n)$ Assuming the initial conditions are zero; Determine its impulse response. Plot the magnitude & phase responses.	Apply	1
5.	Find the impulse response of the system described by the difference equation $y(n) - 3y(n-1) + 4y(n-2) = x(n) + 2x(n-1)$	Apply	1
	OR		
6.	Determine the solution of the difference equation	Apply	1

	y(n)=5/6 y(n-1) -1/6y(n-2) +x(n) for x(n) =2^n u(n).		
7.	Compute discrete linear convolution of x(n) ={1,2,3,1} and h(n)={1,2,1,-1}	Apply	1
	OR		
8.	a). State DFS representation and prove any two properties. b). Explain briefly about advantages and applications of Digital Signal Processing.	Understand	1

MODULE II

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Compute DFT of the following 4-point sequence: x(n)=1 for $0 \leq n \leq 2$	Apply	2
	OR		
2.	Determine the IDFT for the following 4-point sequence y(n)={12,-4+4j,-4,-4-j4}	Apply	2
3.	Compare DTFT, DFT and FFT.	Analyze	2
	OR		
4.	State and Prove any three Properties of DFT	Understand	2
5.	Perform Linear convolution & Circular Convolution using DFT of the following sequence x(n) ={0.5,1}, h(n) {1,0.5}	Apply	2
	OR		
6.	Find the DFT of a sequence x(n)={1,2,3,4,4,3,2,1} using radix-2 DIT- FFT Algorithm.	Apply	2
7.	Determine the IDFT of a sequence X(K)={12,0,1-j2.414,0,1-j0.414,0,1+j2.414,1+j0.414} using radix-2 DITFFT	Apply	2
	OR		
8.	Compute the linear Convolution and Circular Convolution of the following Sequences x(n)={1,2,1,2} h(n)={2,1}.	Analyze	2

MODULE III

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Design an analog Butterworth filter for the given specifications: $0.9 \leq H(j\Omega) \leq 1$ for $0 \leq \Omega \leq 0.2\pi$ $H(j\Omega) \leq 0.2$ for $0.4\pi \leq \Omega \leq \pi$	Analyze	3
	OR		
2.	Implement an analog Chebyshev filter that satisfies the constraints: $0.707 \leq H(j\Omega) \leq 1$ for $0 \leq \Omega \leq 2$ $H(j\Omega) \leq 0.1$ for $\Omega \geq 4$	Analyze	3
3.	Compare Analog and Digital filters	Apply	3

	OR		
4.	Distinguish Butterworth and Chebyshev filters.	Analyze	3

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B. TECH II SEMESTER (MR-17) I Mid Examination Objective Question Bank

Subject : Digital Signal Processing Branch: ECE-A, B&C
Name of the faculty: Dr.N.SubbuLakshmi / Dr.T.Srinivas Reddy / Mrs. C.Silpa
Subject Code : 70421

OBJECTIVE QUESTIONS

1. The interface between an analog signal and a digital processor is
   A. D/A Converter B. A/D Converter C. Modulator D. Demodulator
   [B]
2. The speech signal is obtained after
   A. Analog To Digital Conversion B. Digital To Analog Conversion C. Modulation D. Quantization
   [B]
3. Telegraph signals are examples of
   A. Digital Signals B. Analog Signals C. Impulse Signals D. Pulse Train
   [A]
4. As compared to the analog systems, the digital processing of signals allow
   1) Programmable operations 2) Flexibility in the system design
   3) Cheaper systems 4) More reliability
   A. 1, 2 And 3 Are Correct B. 1 And 2 Are Correct C. 1, 2 And 4 Are Correct D. All Correct
   [D]
5. The discrete impulse function is defined by
   A. $\delta(n) = 1, n \geq 0$ $= 0, n \neq 1$ B. $\delta(n) = 1, n = 0$ $= 0, n \neq 0$ C. $\delta(n) = 1, n \leq 0$ $= 0, n \neq 1$ D. $\delta(n) = 1, n \leq 0$ $= 0, n \geq 1$
   [B]
6. The similarity between the Fourier transform and the z transform is that
   A. Both convert frequency spectrum domain to discrete time domain
   B. Both convert discrete time domain to frequency spectrum domain
   C. Both convert analog signal to digital signal
   D. Both convert digital signal to analog signal
   [B]
7. For circular convolution adding zeros called
   [A]
   A. Zero Padding B. Insertion C. Addition D. Convolution

8. The several ways to perform an inverse Z transform are
   1) Direct computation 2) Long division 3) Partial fraction expansion with table lookup
   4) Direct inversion
   [D]

A. 1, 2 and 3 are correct B. 1 and 2 are correct C. 2 and 3 are correct D. All are correct

9. Zero-state response is also known as:
[B]
A. Free Response B. Forced Response C. Natural Response D. None Of Above

10. The condition for a system to be stable is
[B]
A. All Poles Of Its Transfer Function Lie On The Left Half Of S-Plane

B. All Poles Of Its Transfer Function Must Be Right Half Of S-Plane

C. All Zeros Of Its Transfer Function Must Be Right Half Of S-Plane

D. All zeros of its transfer function must be left half of s-plane

11. The anti causal sequences have _____ components in the left hand sequences.
[A]
A. Positive B. Negative C. Both A And B D. None Of the above

12. $H(e^{jw})$ is called as
[B]
A. Frequency Response B. Input Response C. Output Response D. None

13. Zero-input response is also known as:
[C]
A. Free Response B. Forced Response C. Natural Response D. None of above

14. The causal sequences have _____ components in the right hand sequences.
[B]
A. Positive B. Negative C. Both A And B D. None of the above

15. FIR filters are _____
[A]
A. Non-Recursive And Do Not Adopt Any Feedback B. Recursive And Use Feedback

C. Both Recursive And Non-Recursive D. None of these

16. The cascade realisation of IIR systems involves
1) The transfer function broken into product of transfer functions
2) The transfer function divided into addition of transfer functions
3) Factoring the numerator and denominator polynomials
4) Derivatives of the transfer functions
[B]
A. 1, 2 and 3 are correct B. 1 and 3 are correct C. 3 and 4 are correct D. All are correct

17. The parallel realization of IIR systems involves
1) The transfer function broken into product of transfer functions
2) The transfer function divided into addition of transfer functions
3) Factoring the numerator and denominator polynomials
4) Derivatives of the transfer functions

[B]

A. 1, 2 and 3 are correct B. 2 and 3 are correct C. 3 and 4 are correctD. All the four are correct

18. IIR filters are _____

[B]

A. Non-Recursive And Do Not Adopt Any Feedback B. Recursive And Use Feedback

C. Both Recursive And Non-Recursive D. None of these

19. Let x1(t) and x2(t) be periodic signals with fundamental periods T1 and T2 respectively. Then the fundamental period of x(t)=x1(t)+x2(t) is_____

[A]

A. LCM of T1 and T2 B. HCF of T1 and T2 C. Product of T1 and T2 D. Ratio of T1 to T2

20. All energy signals will have an average power of_____

[B]

A. Infinite B. Zero C. Positive D. Cannot be calculated

21. A _____ is defined as any physical quantity that varies with time, space or any other independent variable.

[A]

A, Signal B. System C. Processor D.None

22. The response of a system with zero input and depends only on the initial state of the system is called _____.

[B]

A.Forced Response B. Natural Response C. Delayed Response D. None

23. A _____ is a physical device that performs an operation on the signal.

[B]

A. Signal B. System C. Processor D. None

24. The response of a system with zero initial conditions and depends only on the input of the system is called _____.

[A]

A.Forced Response B. Natural Response C. Delayed Response D. None

25. The ratio of the Fourier Transform of the output to the Fourier Transform of the input is called as ___ of the system.

[B]

A.Impulse Response B. Transfer Function C. Step Response D. None Of These

26. Any discrete time signal can be expressed as :

[C]

A. Multiplication Of Impulses B. Continuous Function Of An Independent Variable

C. Addition Of Non Integer Values Of 'N' D. addition of impulses

27. A system can be realized in real time only if it is:

[A]

A. Causal And Stable B. Non Causal And Stable C. Causal And Unstable D. Non causal and unstable

28. In the causal system, the output depends only on the :
[A]
A. Present & Past Inputs B. Present Input C. Present & Future Inputs D. Present output & past inputs

29. In Fourier Transform of a real signal, the phase & magnitude functions are:
[D]
A. Symmetric And Anti Symmetric B. Both Are Symmetric C. Both Are Anti-Symmetric D. Anti-
symmetric and symmetric

30. A discrete time system is _____ if it satisfies the superposition principle [ ]
[A]
A. Linear B. Causal C. Non-Linear D. Non-Causal

31. A discrete-time system is _____ if the input-output relationship does not change with time.
[B]
A. Time-Variant B. Time-Invariant C. Both D. None

32. The frequency response of any LTI Discrete time system consists of namely _____
[C]
A. Magnitude Response B.Phase Response C. Both A & B D. None

33. The Direct Form II realization requires _____ multiplications
[A]
A. M + N + 1 B. M + N C. M – N D. M - N + 1

34. The Direct Form I realization requires _____ additions
[B]
A. M - N B. M + N C. M * N D. 2M+2N

35. $Z\{a^n u(n)\}$ = _____
[C]
A. $Z/(Z-A)$ B. $1/(1-Az^{-1})$ C. Both (A) & (B) D. None

36. In direct form-II structure the number of delay elements required is _____ that for direct form-I structure.
[A]
A. Less than B. Greater than C. Equal to D. Exponential to

37.The system equation described by the difference equation $y(n) -0.3y(n-1)=2x(n)$ is stable or not
[B]
A. Unstable B. Stable C. Causal D. Non-Causal

38.Two periodic signals of periods N_1, N_2 respectively are added. Then the period of the resultant signal is
[B]
A.N_1+N_2 B. LCM Of N_1, N_2 C. $N_1- N_2$ D. GCD of N_1, N_2

39. Which realization uses lesser number of Delay elements?
[B]
A. Direct Form I B. Direct Form Ii C. Cascade Form D. Parallel form

40. The number of adders in Direct form –I with 5 zeros and 6 poles

[D]

A. 12 B. 10 C. 9 D. 11

41. The convolution of a finite sequence with an infinite sequence is

[B]

A. Cannot Be Found B. Always An Infinite Sequence C. Always A Finite Sequence

D. May be finite or infinite sequence

42. The Direct form FIR structure is also referred as

[A]

A. Transversal Structure B. Parallel Structure C. Cascade Structure D. Transposed structure

43. The given signal x(n) = 2nu(n) with u(n) as step signal is

[C]

A. Power Signal B. Both Energy And Power Signal C. Neither Energy & Nor Power D. Energy signal

44.The system equation y(n) = x(n) + 3x(n-2)

[C]

A. Neither Causal Nor Non-Causal B. Both Causal And Non-Causal C. Causal D. Non-causal

45. The stable filter is

[A]

A. Fir Filter B. Iir Filter C. Neither Fir Nor Iir D. Both Fir And Iir

46. The total solution of the difference equation is given as:

[B]

A. $Y_p(N)-Y_h(N)$ B. $Y_p(N)+Y_h(N)$ C. $Y_h(N)-Y_p(N)$ D.None of above

47. A system output y(n) at any time n depends on any number of past output values is called

[D]

A. Causal b. B.Non-Recursive c. C.Non-Causal d. D.Recursive

48. The ROC of X(Z) cannot contain any

[D]

A. Zeros Of X(Z) B. Multiple Poles Of X(Z) C. Poles And Zeros Of X(Z) D.Poles of X(Z)

49. A discrete time system is _____ if it does not satisfy the superposition principle

[C]

A. Linear B. Causal C. Non-Linear D. Non-Causal

50.A discrete-time system is _____ if the input-output relationship changes with time.

[A]

A. Time-Variant B. Time-Invariant C. Both D.None

51. An N-Point sequence is called _____if it is symmetric about point zero on circle.

[A]

A. Even B. Odd C. Conjugate D.None

52. The _____ is also called as periodic convolution.

[B]

A. Linear Convolution B. Circular Convolution C. Both A & B D. None

53. The number of samples present in the linearly convolved output sequence is given by
[A]
A. $N_1 + N_2 - 1$ B. Max (N_1 , N_2) C. $N_1 + N_2$ D. $2N_1 + N_2$

54. DFT $\{\delta(n-no)\}$ = _____
[D]
A. 1 B. $e^{\frac{-j2\pi nk}{N}}$ C. $e^{\frac{-j2\pi n}{N}}$ D. $e^{\frac{-j2\pi kno}{N}}$

55. In DIT FFT algorithm the Input sequence will be in
[B]

A. Bit Reversal Order B. Normal Order C. Both D. None

56. In Inverse DFT the multiplication factor is
[B]
A. N B. 1/N C. N^2 D. 1/ N^2

57. An N-Point sequence is called _____ if it is anti-symmetric about point zero on circle.
[B]
A. Even B. Odd C. Conjugate D. None

58. The number of samples present in the circularly convolved output sequence is given by___
[B]
A. $N_1 + N_2 - 1$ B. Max (N_1 , N_2) C. $N_1 + N_2$ D. $2N_1 + N_2$

59. In DIF FFT algorithm the Input sequence will be in
[B]
A. Bit Reversal Order B. Normal Order C. Both D.None

60. If we use two N/2 point DFTs in FFT computation then number of complex additions required is _____
[A]
A.N(N-1) B. N^2 C. $N^2 - 1$ D. 2N(N-1)

61.In an N-Point DFT of a finite duration sequence x(n) of length L, the value of N should be such that _____
[B]
A. $N \leq L$ B. $N \geq L$ C. $N \neq L$ D. N = L

62. If x(n) and X(k) are an N-point DFT pair, then X(k+N)=_____
[C]
A. X(-K) B. -X(K) C. X(K) D. None of above

63. If X1(k) and X2(k) are the N-point DFTs of x1(n) and x2(n) respectively, then what is the N-point DFT of x(n)=ax1(n)+bx2(n)?
[B]
A. X1(Ak)+X2(Bk) B. $Ax_1(K)+Bx_2(K)$ C. $Akx_1(K)+Bkx_2(K)$ D. None

64. The _____ is called as aperiodic convolution.

[A]

A. Linear Convolution B. Circular Convolution C. Both A & B D. None

65.If we use two N/2 point DFTs in FFT computation then number of complex multiplications required is [ ]

[B]

A.N(N-1) B. N^2 C. $N^2 - 1$ D. 2N(N-1)

66. The DFT of convolution of two sequences is equivalent to _____ of the DFT's in the frequency domain.

[B]

A. Addition B. Multiplication C. Convolution D. Subtraction

67. In an LTI system if input has N_1 samples and the impulse response has N_2 samples then the output Sequence will have _____ samples.

[A]

A. $N_1 + N_2 - 1$ B. $N_1 + N_2 + 1$ C. $N_1 + N_2$ D. $2N_1 + N_2$

68. Appending of zeros to a sequence in order to increase its length is called_____.

[B]

A. Zero Adding B. Zero Padding C. Zero Inserting D. None

69. The response of an LTI system is given by the _____ of input and impulse response.

[C]

A. Addition B. Multiplication C. Convolution D. Subtraction

70. The number of complex additions required in Radix-2 FFT is _____

[B]

A. $\frac{N}{2}$logN B. $N\log_2 N$ C. $\frac{N}{2}\log_2 N$ D. None of above

71. The number of complex multiplications required in Radix-2 FFT is _____

[C]

A. $\frac{N}{2}$logN B. $N\log_2 N$ C. $\frac{N}{2}\log_2 N$ D. None of above

72. If X(k) is the DFT of x(n) which is defined as $x(n)=x_1(n)+jx_2(n)$, $0 \leq n \leq N-1$, then what is the DFT of x1(n)?

[A]

A. 1/2 [X*(k)+X*(N-k)] B. 1/2 [X*(k)-X*(N-k)] C. 1/2j [X*(k)-X*(N-k] D. 1/2j [X*(k)+X*(N-k)]

73.The number of stages present in 16 point sequence is _____

[D]

A. One B. Two C. Three D. Four

74. In an 8-point DFT using Radix-2 FFT, there are _____ stages of computations with _____ butterflies per stage.

[A]

A.Three And Four B. Two And Three C. Three And One D. Two and Four

75. DTFT is the representation of _____

[B]

A. Periodic Discrete Time Signals B. Aperiodic Discrete Time Signals

C. Aperiodic Continuous Signals D. Periodic continuous signals

76. Frequency selectivity characteristics of DFT refers to

[A]

A. Ability to resolve different frequency components from input signal

B. Ability to translate into frequency domain

C. Ability to convert into discrete signal

D. None of the above

77. FFT may be used to calculate

[A]

A. DFT and IDFT

B. Direct Z transform

C. Inverse Z transform

D. None

78. The number of stages in computational procedure for Decimation in frequency algorithm are _

[A]

A. Log_2 N

B. Log_2 2N

C. 2Log_2 N

D. Log_2 N/2

79. If X(k) is the DFT of x(n) which is defined as $x(n)=x_1(n) - jx_2(n)$, $0\leq n\leq N-1$, then what is the DFT of x1(n)?

[C]

A. 1/2 [X*(k)+X*(N-k)]

B. 1/2 [X*(k)-X*(N-k)]

C. 1/2j [X*(k)-X*(N-k)]

D. 1/2j [X*(k)+X*(N-k)]

80. The circular convolution of the sequences $x(n)=\{2,1,2,1\}$ and $x_2(n)=\{1,2,3,4\}$ is_____

[B]

A. {16,16,14,14}

B. {14,16,14,16}

C. {14,14,16,16}

D. None of above

81. If $x_1(n)$ and $x_2(n)$ are two real valued sequences of length N, and let x(n) be a complex valued sequence defined as $x(n)=x_1(n)+jx_2(n)$, $0\leq n\leq N-1$, then what is the value of $x_1(n)$?

[B]

A. (x(n)-x*(n))/2 B. (x(n)+x*(n))/2 C. (x(n)+x*(n))/2j D. (x(n)-x*(n))/2j

82. If the signal to be analyzed is an analog signal, we would pass it through an anti-aliasing filter with B as the bandwidth of the filtered signal and then the signal is sampled at a rate:

[C]
A. $Fs \leq 2B$ b. $Fs \leq B$ C. $Fs \geq 2B$ D. $Fs = 2B$

83. If $x_1(n)$ and $x_2(n)$ are two real valued sequences of length N, and let x(n) be a complex valued sequence defined as $x(n)=x_1(n)+jx_2(n)$, $0 \leq n \leq N-1$, then what is the value of $x_2(n)$?

[D]
A. $(x(n)-x^*(n))/2$ B. $(x(n)+x^*(n))/2$ C. $(x(n)+x^*(n))/2j$ D. $(x(n)-x^*(n))/2j$

84. What is the value of $X_R(\omega)$ given $X(\omega)=1/(1-ae^{-j\omega})$, $|a|<1$?
[C]
A. $a\sin\omega/(1-2a\cos\omega+a^2)$

B. $(1+a\cos\omega)/(1-2a\cos\omega+a^2)$

C. $(1-a\cos\omega)/(1-2a\cos\omega+a^2)$

D. $(-a\sin\omega)/(1-2a\cos\omega+a^2)$

85. What is the DFT of the four point sequence x(n)={0,1,2,3}?
[C]

A. {6,-2+2j-2,-2-2j}

B. {6,-2-2j,2,-2+2j}

C. {6,-2+2j,-2,-2-2j}

D. {6,-2-2j,-2,-2+2j}

86. If X(k) is the N point DFT of a sequence whose Fourier series coefficients is given by ck, then which of the following is true?

[A]

A. X(k)=Nck

B. X(k)=ck/N

C. X(k)=N/ck

D. None of the mentioned

87. If X(k) is the N-point DFT of a sequence x(n), then what is the DFT of x*(n)?
[C]
A. X(N-k) B. X*(k) C. X*(N-k) D. None of above

88. What is the value of $X_I(\omega)$ given $X(\omega)=1/(1-ae^{-j\omega})$, $|a|<1$?
[D]

A. $a\sin\omega/(1-2a\cos\omega+a^2)$

B. $(1+a\cos\omega)/(1-2a\cos\omega+a^2)$

C. $(1-a\cos\omega)/(1-2a\cos\omega+a^2)$

D. $(-a\sin\omega)/(1-2a\cos\omega+a^2)$

89. The Nth root of unity W_N is given as:
[C]
A. $e^{j2\pi N}$ B. $e^{-j2\pi N}$ C. $e^{-j2\pi/N}$ D. $e^{j2\pi/N}$

90. Which of the following is true regarding the number of computations requires to compute an N-point DFT?

[A]

A.N^2 complex multiplications and N(N-1) complex additions

B.N^2 complex additions and N(N-1) complex multiplications

C.N^2 complex multiplications and N(N+1) complex additions

D.N^2 complex additions and N(N+1) complex multiplications

91. If X(If X(k) discrete Fourier transform of x(n), then the inverse discrete Fourier transform of X(k) is:

[D]

A. $\frac{1}{N}\sum_{k=0}^{N-1} X(k)e^{-j2\pi kn/N}$

B. $\sum_{k=0}^{N-1} X(k)e^{-j2\pi kn/N}$

C. $\sum_{k=0}^{N-1} X(k)e^{j2\pi kn/N}$

D. $\frac{1}{N}\sum_{k=0}^{N-1} X(k)e^{j2\pi kn/N}$

92. What is the value of |X (ω)| given X(ω)=1/(1-ae-jω) ,|a|<1?

[A]

A. $1/\sqrt{(1-2a\cos\omega+a^2)}$

B.$1/\sqrt{(1+2a\cos\omega+a^2)}$

C.$1/(1-2a\cos\omega+a^2)$

D.$1/(1+2a\cos\omega+a^2)$

93. If x(n) is a finite duration sequence of length L, then the discrete Fourier transform X(k) of x(n) is given as:

[A]

A. $\sum_{n=0}^{N-1} x(n)e^{-j2\pi kn/N}$(L<N)(k=0,1,2...N-1)

B. $\sum_{n=0}^{N-1} x(n)e^{j2\pi kn/N}$(L<N)(k=0,1,2...N-1)

C. $\sum_{n=0}^{N-1} x(n)e^{j2\pi kn/N}$(L>N)(k=0,1,2...N-1)

D. $\sum_{n=0}^{N-1} x(n)e^{-j2\pi kn/N}$(L>N)(k=0,1,2...N-1)

94. If $W_4^{100}=W_x^{200}$, then what is the value of x?

[C]

A.2 B.4 C.8 D.16

95. If g(n) is a real valued sequence of 2N points and x1(n)=g(2n) and x2(n)=g(2n+1), then what is the value of G(k), k=0,1,2…N-1?

[B]

A. $X1(k)-W_2kNX_2(k)$

B. $X1(k)+W_2kNX_2(k)$

C. $X1(k)+W_2kX_2(k)$

D. $X_1(k)-W_2kX_2(k)$

96. DIT algorithm divides the sequence into
[B]

A. Positive and negative values

B. Even and odd samples

C. Upper higher and lower spectrum

D. Small and large samples

97. DFT is applied to
[B]

A. Infinite sequences

B. Finite discrete sequences

C. Continuous infinite signals

D. Continuous finite sequences

98. The basic properties of DFT includes:
[D]
A. Linearity B. Periodicity C. Convolution D. All the above

99. Time shifting of discrete time signal means
[A]
A. y[n] = x[n-k] B. y[n] = x[-n-k] C. y[n] = -x[n-k] D. y[n] = x[n+k]

100. Time reversal of a discrete time signal refers to
[B]
A. y[n] = x[-n+k] B. y[n] = x[-n] C. y[n] = x[-n-k] D. y[n] = x[n-k]

101. λ is given by
[B]

A. $\lambda = \sqrt{10^{0.1^{\alpha_S}} - 1}$

B. $\lambda = \sqrt{10^{0.1^{\alpha_P}} - 1}$

C. $\lambda = \sqrt{10^{0.1^{\Omega_P}} - 1}$

D. $\lambda = \sqrt{10^{0.1^{\Omega_S}} - 1}$

102. Roots of butter worth filter for N even is given by
[C]
A. $S_k=e^{j2k\pi/N}$ B. $S_k=e^{j\pi k/N}$ C. $S_k=e^{j(2k-1)\pi/2N}$ D. $S_k=e^{j(2k-2)\pi/2N}$

103. Relation between analog signal & digital signal frequency is given by
[C]
A. $\omega = 2\pi/T$ B. $\omega = \Omega\pi/T$ C. $\omega = \Omega T$ D. $\omega = \Omega 2T$

104. In Bilinear transformation $H[z]$ is obtained by
[B]

. $H[z]=\frac{1-z^{-1}}{1+z^{-1}}$ B. $H[z]=\frac{2}{T}\left[\frac{1-z^{-1}}{1+z^{-1}}\right]$ C. $H[z]=T\left[\frac{1-z^{-1}}{1+z^{-1}}\right]$ D. $H[z]=Z\left[\frac{1-z^{-1}}{1+z^{-1}}\right]$

105. For N=3 &Ω_C = 1 rad / sec then the Transfer Function in butter worth approximation is given

[C]

A. H(s) = $\frac{1}{S^2+\sqrt{2}S+1}$

B. H(s) = $\frac{1}{S+1}$

C. H(s) = $\frac{1}{(S+1)(S^2+S+1)}$

D.H(s) = $(S+1)(S^2+S+1)$

106. In chebyshev approximation order of the filter is given by

[D]

A. $N \geq \frac{Cosh^{-1}\lambda/\varepsilon}{Cosh^{-1}(\Omega_S/\Omega_P)}$

B. $N \geq \frac{Cosh^{-1}\varepsilon/\lambda}{Cosh^{-1}(\Omega_P/\Omega_S)}$

C. $N \geq \frac{Cosh^{-1}\lambda/\varepsilon}{Cosh^{-1}(\Omega_P/\Omega_S)}$

DD. $N \geq \frac{Cosh^{-1}\varepsilon/\lambda}{Cosh^{-1}(\Omega_S/\Omega_P)}$

107. In chebyshev approximation, the normalized magnitude response has a value of _____ at the cut-off frequency

[B]

A. Zero B. One C. Infinity D. None

108. For N=2 & Ω_C = 1 rad / sec then the Transfer Function in butter worth approximation is given by

[A]

A. H(s) = $\frac{1}{S^2+\sqrt{2}S+1}$

B. H(s) = $\frac{1}{S+1}$

C. H(s) = $\frac{1}{(S+1)(S^2+S+1)}$

D. H(s) = $(S+1)(S^2+S+1)$

109. In butter worth approximation the order of the filter N is given by

[C]

A. $N = \dfrac{\log \dfrac{\varepsilon}{\lambda}}{\log \dfrac{\Omega_P}{\Omega_S}}$

C. N = $\dfrac{\log \dfrac{\varepsilon}{\lambda}}{\log \dfrac{\Omega_S}{\Omega_P}}$

B. $N = \dfrac{\log \dfrac{\lambda}{\varepsilon}}{\log \dfrac{\Omega_P}{\Omega_S}}$

D. N = $\dfrac{\log \dfrac{\lambda}{\varepsilon}}{\log \dfrac{\Omega_S}{\Omega_P}}$

110. ε is given by

[A]

A. $\varepsilon = \sqrt{10^{0.1\alpha_S} - 1}$

C. $\varepsilon = \sqrt{10^{0.1\Omega_P} - 1}$

B. $\varepsilon = \sqrt{10^{0.1\alpha_P} - 1}$

D. $\varepsilon = \sqrt{10^{0.1\Omega_S} - 1}$

111. In Impulse Invariance Method H[z] is obtained by_____

[C]

A. $H[z] = \sum_{K=1}^{N} \dfrac{C_K}{1 - e^{PKT} z}$

C. $H[z] = \sum_{K=1}^{N} \dfrac{C_K}{1 - e^{PKT} z^{-1}}$

B. $H[z] = \sum_{K=1}^{N} \dfrac{C_K}{1 - e^{PK} z}$

D. $H[z] = \sum_{K=1}^{N} \dfrac{C_K}{1 - e^{PK} z^{-1}}$

112. The prewarping analog signal frequency is given by _____

[B]

A. $\Omega = 2T \tan \dfrac{w}{2}$ B. $\Omega = \dfrac{2}{T} \tan \dfrac{w}{2}$ C. $\Omega = \tan w/2$ D. $\Omega = 2 \tan w/2$

113. The poles of Butterworth filter lies on an _____

[A]

A. Circle B. Ellipse C. Parabola D. Hyperbola

114. The poles of chebyshev filter lies on an _____

[B]

A. Circle B. Ellipse C. Parabola D. Hyperbola

115. The distortion in frequency axis due to the non-linear relationship between the analog and digital frequency is called

[D]

A. Pre-warping B. Post-warping C. Distortion D. Frequency warping

116. The magnitude response of butter worth filter closed to _____ as the order N increases.

[A]

A. Ideal B. Practical C. Real D. Imaginary

117. The impulse-invariant mapping is _____mapping.

[D]

A. Many-to-One B. Many-to-Many C. One-to-One D. One-to-Many

118. In type-1 chebyshev approximation the magnitude response is _____in pass band and _____in stop band.

[A]

A. Monotonic and Equiripple

B. Monotonic and Monotonic

C. Equiripple and Monotonic

D. Equiripple and Equiripple

119. The Bilinear mapping is _____mapping.

[C]

A. Many-to-One B. Many-to-Many C. One-to-One D. One-to-Many

120. In Bilinear transformation, the effect of frequency warping can be eliminated by _____the analog filter.

[A]

A. Pre-warping

B. Post-warping

C. Frequency warping

D. None

121. In type-2 chebyshev approximation the magnitude response is _____ in pass band and _____in stop band.

[C]

A. Monotonic and Equiripple

B. Monotonic and Monotonic

C. Equiripple and Monotonic

D. Equiripple and Equiripple

122. The s plane and z plane are related as

[A]

A. $z = e^{St}$ B. $z = e^{2sT}$ C. $z = 2e^{sT}$ D. $z = e^{sT/2}$

123. In IIR Filter design by the Bilinear Transformation, the Bilinear Transformation is a mapping from

[B]

A. Z-plane to S-plane B. S-plane to Z-plane C. S-plane to J-plane D. J-plane to Z-plane

124. Which of the following defines a chebyshev polynomial of order N, TN(x)?
[C]
A. $\cos(N\cos^{-1}x)$ for all x B. $\cos(N\cos^{-1}x)$, $|x|\leq 1$ C. $\cosh(N\cosh^{-1}x)$, $|x|>1$

D. None of above

125. Which of the following is a frequency domain specification?
[D]
A. $0 \geq 20\log|H(j\Omega)|$ B. $20\log|H(j\Omega)| \geq \alpha_p$ C. $20\log|H(j\Omega)| \leq \alpha_s$ D. All the above

Code: 70H04 **2019-20**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.Tech II Semester I Mid Question Bank (MR 17)

Subject: Engineering Economics & Accountancy **Branch: EEE,ECE,CSE,IT**

Name of the Faculty:K.Neeraja, K. Dhanalakshmi, Mary Iris, Abhinav Swaroop

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Instructions:

1. **All the questions carry equal marks.**
2. **Solve all the questions.**

MODULE-I			
Q.No	**Questions**	**Blooms taxonomy questions**	**Co**
1.	Classify the different forms of business environment & Discuss the factors effecting the business organisation.	Analyzing	I
	Or		
2.	Examine the different forms of Public enterprises?	Analyzing	I
	Or		
3.	What do you understand by joint stock company? Explain with merits and demerits.	Understanding	I
	Or		
4.	Explain partnership & Discuss how is Sole trader different from Partnership?	Understanding	I
	Or		
5.	Identify demand forecasting & Explain the techniques of demand Forecasting?	Applying	I
	Or		
6.	Identify the what are the factors determining demand?	Applying	I
	Or		
7.	Explain Managerial Economics? Explain the Nature and Scope of managerial Economics?	Understanding	I

	Or		
8.	What do you mean by elasticity of demand? How do you measure it?	Understanding	I
MODULE-II			
1.	Explain production function & explain the production function with one variable graphically.	Understanding	II
	Or		
2.	Explain about the ISO costs and MRTS?	Understanding	II
	Or		
3.	Analyze the COBB-DOUGLAS production function?	Analyzing	II
	Or		
4.	Classify the different types of costs?	Analyzing	II
	Or		
5.	A firm has a fixed cost of Rs 50,000; selling price per unit is Rs 50 and variable cost per unit is Rs25. Present level of production is 3500 units. Determine BEP in terms of volume and also sales value.	Applying	II
	Or		
6.	Construct graphical presentation of BEA. Explain Break-Even Analysis (BEA) and determine it.	Applying	II
	Or		
7.	Explain the types of economies of scale briefly?	Understanding	II
	Or		
8.	What do you understand by the laws of returns with explain briefly.	Understanding	II
MODULE-III			
1.	Compare the features of perfect competition and monopolistic competition?	Understanding	III
	Or		
2.	Explain Perfect Competition and explain how price is determined under perfect competition in short run?	Understanding	III
	Or		
3.	Analyze the Price Output determination in Monopoly?	Analyzing	III
	Or		

4.	Examine the different market structures?	Analyzing	III
	Or		
5.	Write down the features of perfect markets?	Understanding	III
	Or		
6.	Illustrate price determining in case of Monopoly.	Understanding	III

Signature of faculty **Signature of HOD**

Code: 70H04 | **MR 17**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)
(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Maisammaguda, Dhulapally, (Post via Kompally), Secunderabad-500 100.

III B.TECH II SEMESTER& II B.TECH II SEMESTER

SUBJECT: ENGINEERING ECONOMICS & ACCOUNTANCY

(BRANCH :Common to CSE,ECE,EEE,ME&IT)

Name of the faculty: K.NEERAJA,K.DHANALAKSHMI,MARYIRIS,ABHINAV SWAROOP(MBA DEPARTMENT)

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1. Which of the following is not a factor affecting the choice of a business organization? [ ]
   a) Liability
   b) Agreement
   c) Quick decision making
   d) Flexibility
2. Decision making is faster in [ ]
   a) Joint stock company
   b) Departmental undertaking
   c) Partnership
   d) Sole trader
3. The advantage of sole trader form of business organization___ [ ]
   a) Unlimited liability
   b) Large requirement of capital
   c) More competition
   d) Low rate of taxation
4. Which of the following is not a feature of partnership? [ ]
   a) Relationship
   b) There should be a business
   c) Agreement
   d) No partner can act for other partners
5. The closure of partnership is called_____ [ ]
   a) Resolution
   b) Revolution
   c) Solution
   d) Dissolution
6. The written agreement among partners is [ ]
   a) Trading deed
   b) Demand draft
   c) Partnership deed

d) Bill of exchange

7. To start a partnership firm a minimum of _____ and maximum of _____ is required to carry on non-banking business. [ ]
   a) 2 and 10
   b) 7 and unlimited
   c) 2 and 50
   d) 2 and 20
8. Which among the following is not an achievement of public enterprise? [ ]
   a) Generating large employment opportunities
   b) Encouraging the growth of private monopolies
   c) Stimulating diversified growth in private sector
   d) Creating viable infrastructure.
9. The advantage of departmental undertaking is [ ]
   a) Delayed decisions
   b) Incidence of more taxes
   c) Effective control
   d) No incentives to maximum earnings
10. Indian company Act was enacted in [ ]
   a) 1956
   b) 1936
   c) 1947
   d) 1950
11. Which of the following is not a feature of the company [ ]
   a) Transferability of shares
   b) Unlimited liability
   c) Common seal
   d) Winding up
12. The minimum paid up capital in a public company is [ ]
   a) Rs.2 lakhs and higher
   b) Rs.10 lakhs and higher
   c) Rs.24 lakhs and higher
   d) Rs.5 lakhs and higher
13. The Indian partnership Act was enacted in [ ]
   a) 1932
   b) 1942
   c) 1952
   d) 1962
14. A partner who lends his name to the firm without having any real interest is called as [ ]
   a) Ostensible partner
   b) Sleeping partner or dormant partner
   c) Nominal partner
   d) Partner by Estoppels
15. An agreement to share profit implies: [ ]
   a) To share only profits
   b) To share only negative profits
   c) To share both profits and losses
   d) Neither to share profit nor losses
16. The term implied refers to [ ]
   a) Written agreement
   b) Oral agreement
   c) Inferred from the course of dealing

d) All the above

17. Working partner is also called [ ]
    a) Nominal partner
    b) Minor partner
    c) Sleeping partner
    d) Active partner
18. In a partnership firm ,the partners liability is [ ]
    a) Limited
    b) Medium
    c) Unlimited
    d) Large
19. According to Law of demand - when price falls of a commodity demand goes on [ ]
    a) Decreasing
    b) Increasing
    c) Remains constant
    d) Not related
20. From the following factors which one does not impact on demand [ ]
    a) Price
    b) Income.
    c) Taste of consumers'
    d) Weather
21. Demand for petrol [ ]
    a) Elastic
    b) Inelastic
    c) Perfectly elastic
    d) Perfectly inelastic
22. When PE <1 (PE=Price elasticity) we call it [ ]
    a) Perfectly elastic demand
    b) Perfectly inelastic demand
    c) Relatively elastic demand
    d) Relatively inelastic demand
23. When PE =1 (PE=Price elasticity) we call it [ ]
    a) Perfectly elastic demand
    b) Perfectly inelastic demand
    c) Relatively elastic demand
    d) Unit elastic demand
24. When PE =0 (PE=Price elasticity) we call it [ ]
    a) Perfectly elastic demand
    b) Perfectly inelastic demand
    c) Relatively elastic demand
    d) Relatively inelastic demand
25. Giffen goods, Veblen goods and speculations are exceptions to___ [ ]
    a) Cost function
    b) Production function
    c) Law of Demand
    d) Finance function
26. When PE = infinity(Price Elasticity of Demand is infinite), we call it ___ [ ]
    a) Relatively Elastic
    b) Perfectly Inelastic
    c) Perfectly Elastic
    d) Unit Elastic

27. Income Elasticity of demand when less than 'O' (IE = O), it is termed as __ [ ]
    a) Income Elasticity less than unity
    b) Zero income Elasticity
    c) Negative Income Elasticity
    d) Unit Income Elasticity
28. The other name of inferior goods is _____ [ ]
    a) Veblen goods
    b) Necessaries
    c) Giffen's goods
    d) Diamonds
29. Estimation of future possible demand is called _____ [ ]
    a) Sales Forecasting
    b) Production Forecasting
    c) Income Forecasting
    d) Demand Forecasting
30. How many major methods are employed to forecast the demand [ ]
    a) Three
    b) Four
    c) Two
    d) Five
31. What is the formula for Price Elasticity of Demand? [ ]
    a) % of change in the Price / % of change in the Demand
    b) % of change in the Demand / % of change in the Income
    c) % of change in the Demand /% of change in the Price
    d) % of change in the Demand of 'X'/% of change in the Price of 'Y'
32. When a small change in price leads great change in the quantity demand, we call it [ ]
    a) Inelastic Demand
    b) Negative Demand
    c) Elastic Demand
    d) None
33. When a great change in price leads small change in the quantity demand, we call it [ ]
    a) Elastic Demand
    b) Positive Demand
    c) Inelastic Demand
    d) None
34. "Coffee and Tea are the _____ goods". [ ]
    a) Relative
    b) Complementary
    c) Substitute
    d) None
35. Consumers Survey method is one of the Survey Methods to forecast the__. [ ]
    a) Sales
    b) Income
    c) Demand
    d) Production
36. What is the formula for Income Elasticity of Demand? [ ]
    a) % of change in the Income / % of change in the Demand
    b) % of change in the Demand / % of change in the Price
    c) % of change in the Demand /% of change in the Income
    d) % of change in the Demand of 'X' /% of change in the Price of 'Y'
37. What is the formula for Cross Elasticity of Demand? [ ]

a) % of change in the Price of 'X' / % of change in the Demand of X
b) % of change in the Demand of 'Y" /% of change in the Price Y
c) % of change in the Demand of 'X' /% of change in the Price of 'Y'
d) % of change in the Demand X /% of change in the Income Y

38. Which of the following is not a part of Trend projection method? [ ]
a) Least square method
b) Moving average method
c) Test marketing
d) Exponential smoothing

39. When increase in income of an individual results with negative change in demand of product what do you call this---------- [ ]
a) Negative income elasticity
b) Zero income elasticity
c) Unit income elasticity
d) Income elasticity greater than unity

40. When increase in income of an individual results with positive change in demand of product what do you call this---------- [ ]
a) Negative income elasticity
b) Zero income elasticity
c) Unit income elasticity
d) Income elasticity greater than unity

41. When increase in income of an individual results with equal change in demand of product what do you call this---------- [ ]
a) Negative income elasticity
b) Zero income elasticity
c) Unit income elasticity
d) Income elasticity greater than unity

42. The features of good demand forecasting method is [ ]
a) Complexity
b) Economy
c) Demographics
d) Unavailability

43. If no change in price brings huge change in demand is called as---------- [ ]
a) Perfectly elastic
b) Perfectly inelastic
c) Relatively elastic
d) Relatively inelastic

44. Price elasticity is always _____ [ ]
a) Positive
b) Negative
c) Consistent Declining
d) None

45. Advertising elasticity is always _____ [ ]
a) Positive
b) Negative
c) Consistent Declining
d) None

46. Unit income elasticity refers to (Ey = income elasticity) [ ]
a) Ey>0
b) Ey<0
c) Ey=0

d) Ey=1

47. To forecast demand for a particular product or service we use some relevant indicator known as _____ [ ]
    a) Correlation
    b) Simultaneous equation
    c) Barometer
    d) None
48. Census method is also called ---------- method [ ]
    a) Total enumeration
    b) Accountability
    c) Regression
    d) Correlation
49. Sales force opinion survey method includes---------- [ ]
    a) Owners
    b) Marketing Employees
    c) Customers
    d) Outside experts
50. Expert opinion survey method includes---------- [ ]
    a) Owners
    b) Marketing Employees
    c) Customers
    d) Outside experts
51. Production function is also known as [ ]
    a) Output-costs relationship
    b) Input-costs relationship
    c) Input-output relationship
    d) Output-input relationship
52. How many stages are there in 'Law of Variable Proportions'? [ ]
    a) Five
    b) Two
    c) Three
    d) Four
53. Long run cost curves are called [ ]
    a) Operating curves
    b) Fixed curves
    c) Variable curves
    d) Planning curves
54. When a firm expands its Size of production by increasing all factors, it secures certain advantages, known as [ ]
    a) Optimum Size
    b) Diseconomies of Scale
    c) Economies of Scale
    d) None
55. When producer secures maximum output with the least cost combination of factors of production, it is known as_____ [ ]
    a) Consumer's Equilibrium
    b) Price Equilibrium
    c) Producer's Equilibrium
    d) Firm's Equilibrium
56. The 'Law of Variable Proportions' is also called as _____. [ ]
    a) Law of fixed proportions

b) Law of returns to scale
c) Law of variable proportions
d) None

57. _____ is a 'group of firms producing the same are slightly different products for the same market or using same raw material'. [ ]
a) Plant
b) Firm
c) Industry
d) Size

58. When proportionate increase in all inputs results in constant output, then we call [ ]
a) Increasing Returns to Scale
b) Decreasing Returns to Scale
c) Constant Returns to Scale
d) None

59. When different combinations of inputs yield the same level of output Known as [ ]
a) Different Quants
b) Output differentiation
c) Isoquants
d) Production differentiation

60. Conversion of inputs in to output is called as _____. [ ]
a) Sales
b) Income
c) Production
d) Expenditure

61. When Proportionate increase in all inputs results in more than equal Proportionate increase in output, then we call _____. [ ]
a) Decreasing Returns to Scale
b) Constant Returns to Scale
c) Increasing Returns to Scale
d) None

62. When Proportionate increase in all inputs results in less than Equal Proportionate increase in output, then we call _____. [ ]
a) Increasing Returns to Scale
b) Constant Returns to Scale
c) Decreasing Returns to Scale
d) None

63. A curve showing equal amount of outlay with varying Proportions of Two inputs are called [ ]
a) Total Cost Curve
b) Variable Cost Curve
c) Isocost Curve
d) Marginal Cost Curve

64. Which of the following indicated profit? [ ]
a) Contribution+fixed cost
b) Contribution-fixed cost
c) Selling price-variable price
d) None of the above

65. The excess of actual sales revenue over the Break Even sales in known as [ ]
a) P/V ratio
b) Margin of safely
c) Angle of Incidence

d) Contribution

66. Variable costs are known as [ ]
    a) Total Cost
    b) Prime/Direct
    c) Book Cost
    d) None
67. Break-even point means where [ ]
    a) Total sales revenue is equal to total cost
    b) No profit no loss
    c) Only a
    d) Both a and b
68. If the proportionate increase in output is more than the proportionate increase in input, this situation can be called [ ]
    a) Law of decreasing returns to scale
    b) Law of Increasing returns to scale
    c) Constant Returns to scale
    d) None
69. When different combinations of inputs yield the same level of output Known as [ ]
    a) Different Quants
    b) Output differentiation
    c) Isoquants
    d) Production differentiation
70. A curve showing equal amount of outlay with varying Proportions of Two inputs are called [ ]
    a) Total Cost Curve
    b) Variable Cost Curve
    c) Isocost Curve
    d) Marginal Cost Curve
71. When a firm expands its Size of production by increasing all factors, It secures certain advantages, called ___ [ ]
    a) Optimum Size
    b) Diseconomies of Scale
    c) Economies of Scale
    d) None
72. The law of returns is also called _____ [ ]
    a) Law of fixed proportion
    b) Law of variable proportion
    c) Law of constant returns
    d) Law of increasing returns
73. Which of the following level of production denotes break-even point? [ ]
    a) Minimum
    b) Maximum
    c) Constant
    d) Diminishing
74. Production function is not a factor of [ ]
    a) Land
    b) Labor
    c) Cost of capital
    d) Organization
75. If the level of production increases the total cost changes and thus the isocost curve [ ]
    a) Moves downward

b) Moves upward
c) Moves in a linear fashioner
d) Moves in a haphazard manner

76. Isoquant are also called_____ [ ]
a) Isoproduct curve
b) Isocost curve
c) Price indifference curve
d) Indifference curve

77. In Cobb-Douglas production function "k" refers to [ ]
a) Land
b) Labour
c) Capital
d) Organization

78. The transformation of physical inputs into output is known as [ ]
a) Production
b) Supply
c) Demand
d) Cost

79. When the total cost curve cuts the total revenue curve in the BEP it is called [ ]
a) Angle of incidence
b) Angle of suppression
c) Angle of depression
d) None of the above

80. Which of the following is not a type of internal economies? [ ]
a) Managerial economies
b) Financial economies
c) Technical economies
d) Marginal economies

81. In the production function, at any given time, the output from a given set of input is [ ]
a) Always fixed
b) Always variable
c) Semi fixed
d) Semi variable

82. What do - decreasing returns imply? [ ]
a) Increasing marginal product curve
b) Increasing average product
c) Decreasing marginal product curve
d) Constant total product curve

83. Contribution margin is defined as [ ]
a) Selling price-variable cost
b) Selling price per unit-variable cost per unit
c) Selling price*variable cost
d) None of the above

84. Fixed cost per unit changes with---------- [ ]
a) Volume of sales
b) Profit
c) Separable costs
d) Volume of production

85. Such costs that involve an immediate outflow of cash are called [ ]
a) Implicit costs
b) Imputed costs

c) Explicit cost
d) Joint cost

86. Short- run cost curves are called---------- [ ]
a) Operating curves
b) Fixed curves
c) Variable curves
d) Planning curves

87. Implicit or imputed costs are also called as---------- [ ]
a) Future costs
b) Controllable costs
c) Book costs
d) Joint costs

88. Historical costs are also called as---------- [ ]
a) Future costs
b) Joint costs
c) Separable costs
d) Past costs

89. Explicit costs are called ---------- [ ]
a) In house costs
b) Non cash costs
c) In pocket costs
d) Out of pocket costs

90. The cost of the next best alternative foregone is known as [ ]
a) Implicit costs
b) Sunk costs
c) Opportunity costs
d) Marginal costs

91. The cost that must be considered for decision making is---------- [ ]
a) Outlay costs
b) Opportunity cost
c) Incremental cost
d) Sunk cost

92. The cost that is to be paid currently if the asset were to be replaced are called [ ]
a) Past costs
b) Historical costs
c) Replacement costs
d) Joint costs

93. When do the fixed costs vary? [ ]
a) In the short run
b) In the long run
c) In two years
d) Less than two years

94. The total variable cost---------- proportionally with production [ ]
a) Increases
b) Decreases
c) Constant
d) No relation

95. Production is governed by certain laws of returns to scale, are called as---------- [ ]
a) Diseconomies of scale
b) Economies of scale
c) Nominal scale

d) Ordinal scale

96. Those costs which are essential for the sustainability of the business are called-- [ ]
    a) Escapable costs
    b) Economic costs
    c) Urgent costs
    d) Unavoidable costs
97. Which of the following is ascertained for a change in the level of activity [ ]
    a) Marginal
    b) Incremental
    c) Controllable
    d) Opportunity
98. Which of the following refers expenditure incurred to produce a product [ ]
    a) Profit
    b) Price
    c) Capital
    d) Cost
99. Which of the following includes cost of raw material, labor ---- [ ]
    a) Demand
    b) Total revenue
    c) Total cost
    d) Profit
100. The difference between the total revenue and total cost is called--------- [ ]
    a) Cost of product
    b) Cost of capital
    c) Profit
    d) Capital
101. The structure of the market is not based on [ ]
    a) Degree of seller concentration
    b) Degree of buyer concentration
    c) Degree of product differentiation
    d) Condition of exit from the market
102. Which of the following is said to exist when conditions are ideal and not realistic [ ]
    a) Imperfect competition
    b) Perfect competition
    c) Monopoly
    d) Monopolistic
103. Under perfect competition the price is equal to [ ]
    a) AR=MR
    b) AR>MR
    c) MR> AR
    d) MR not equal to AR
104. A monopolist can either control the price or _____ but not both [ ]
    a) Cost
    b) Output
    c) Input
    d) Profit
105. Based on number of buyers, imperfect markets can be classified as_____ [ ]
    a) Monopsony
    b) Duopsony
    c) Oligopsony
    d) All the above

106. To attain equilibrium in a perfect competition, MC curve should cut the MR curve [ ]
   a) Straight line
   b) From above
   c) From below
   d) As a parabola
107. The nature of demand curve in monopoly is_____ [ ]
   a) Perfect elastic
   b) Unit elastic
   c) Inelastic
   d) None of the above.
108. In a perfect competition, the firm's demand curve is also known as_____ [ ]
   a) Average price curve
   b) Marginal cost curve
   c) Average cost curve
   d) Average revenue curve.
109. Which of the following refers to the practice of selling the same product at different price to different buyers? [ ]
   a) Product differentiation
   b) Price in differentiation
   c) Price discrimination
   d) Product discrimination
110. Perfect competition is based on [ ]
   a) Few number of buyers and sellers
   b) Heterogeneous products and services
   c) Each firm is a price maker
   d) Perfect mobility of factors of production.
111. Which of the following is not a factor of monopoly? [ ]
   a) Single firm
   b) Includes no close substitutes nor competitors
   c) Differential pricing
   d) None of the above
112. Which of the following refers to the characteristics of a market that influence the behavior and performance of firms that sell in that market? [ ]
   a) Market power
   b) Market conduct
   c) Market performance
   d) Market structure.
113. Based on which of the following the market can be divided into perfect markets and imperfect markets. [ ]
   a) Degree of concentration
   b) Degree of differentiation
   c) Degree of condition
   d) Degree of competition.
114. Price in the long run is called [ ]
   a) Standard price
   b) Retail price
   c) Market price
   d) Normal price
115. The case of monopoly exists [ ]
   a) MR>AR
   b) MR=AR

c) MR<AR
d) None of the above.

116. The basis of price discrimination is not due to [ ]
a) Purchasing power
b) Quality bought
c) Customers
d) Quality sold

117. The average revenue curve for a firm under monopoly is a [ ]
a) Upward sloping
b) Linear
c) Down ward
d) Parabola

118. In the short period equilibrium ,the price at which available stock can be sold is called[ ]
a) Standard price
b) Retail price
c) Market price
d) Normal price

119. The cause for monopoly is not due to [ ]
a) Government policy
b) Control over outputs
c) Mergers
d) R&D

120. In a perfect competition the demand curve for an individual curve is horizontal and [ ]
a) Perfectly inelastic
b) Perfectly elastic
c) Unit elastic
d) None if the above

121. Which of the following refers to the change in revenue by selling one more unit [ ]
a) Total revenue
b) Average revenue
c) Marginal revenue
d) Marginal cost

122. In perfect competition the industry demand curve represents [ ]
a) The total demand of all sellers at various prices
b) The total demand of all buyers at various prices
c) The total demand of all consumers at various prices
d) The total demand of all investor at various prices

123. In a perfect competition, given a market price, how do you find the demand curve for the output of the individual firm [ ]
a) Vertical line
b) Horizontal line
c) Hyperbola
d) Parabola

124. In short period equilibrium , the at which the available stock can be sold is called [ ]
a) Standard price
b) Retail price
c) Market price
d) Normal price

125. In long run equilibrium , a firm can effect changes to all its factors of production to _____ the cost of production taking the advantage of the latest technology [ ]
a) Maximize

b) Zero
c) One
d) Minimize

Signature of faculty **Signature of HOD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech– III year I Sem (MR 17)
I Mid Examination Subjective Question Bank

Subject:Microcontrollers and Its Applications
Name of the faculty: Dr.Swapna.T/G. Jyothi/ Rehana

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Draw and explain the internal architecture of 8051 microcontroller	Understanding	1
	OR		
2.	Draw and explain the pin diagram of 8051 microprocessor	Understanding	1
3.	Explain Port 1 Structure of 8051	Understanding	1
	OR		
4.	Explain Program status register format of 8051. Explain selection of register bank 2 with a program.	Understanding	1

5.	A) Differentiate between microprocessor and micro controller. B) List the features of 8051.	Understanding	1
	OR		
6.	Draw & Explain SCON register and its modes in detail	Understanding	1
7.	Write a program to transmit "MREC" serially using 4800 baud rate.	Applying	1
	OR		
8.	Write a Program to generate a delay of 500µsec using timer 1 mode1.	Applying	1
Module II			
1.	Describe the different types of the data transfer instructions in 8051.explain the differences between MOV,MOVC and MOVX instructions.	Understanding	2
	OR		
2.	List all the Arithmetic Instruction set of 8051 and explain them with examples	Understanding	2
3.	Write an alp to convert two digit HEX to Decimal using 8051	Applying	2
	OR		
4.	Design an ALP to perform Multibyte addition using 8051	Applying	2
5.	Write an assembly language program to exchange N = 05h bytes of data at location A: 30h and at location B: 40h.	Applying	2
	OR		
6.	Write an assembly language program to perform the subtraction of two 16-bit numbers.	Applying	2
7.	Write an assembly language program to find the square of a given number N.	Applying	2
	OR		
8.	Two switches are connected to pins P3.2 & P3.3 ,when a switch is pressed, the corresponding line goes. Write a program to a)Light all led's connected to port 0,if the first switch is pressed	Applying	2

	b)Light all led's connected to port 2, if the second switch is pressed.		
Module III			
1.	Explain interrupts and interrupt latency.	Understanding	3
	OR		
2.	How do you override the priorities using the IP register.	Understanding	3
3.	Explain the interrupt structure of 8051 microcontroller .Explain how interrupts are prioritized.	Understanding	3
	OR		
4.	List the multiple sources of interrupts and also explain the action taken by MCU in response to an interrupt.	Understanding	3

Signature of the Faculty **Signature of the HoD**

MALLAREDDY ENGINEERING COLLEGE (Autonomous)
III B. Tech II Semester (MR17) I Mid Examination
Objective question Bank

Name of the Subject: Microcontroller and Its Applications
Branch – ECE
Name of faculty –Dr.T.swapna/RehanaFarheen/G.jyothi

1 ---------- microcontroller is romless. (B)
A) 8051 B) 8031 C) 8052 D) none

2 Timer's clock period for crystal oscillator of frequency 16MHz is (A)
A) 0.33 µs B) 1.085µs C) 0.5454 µs D) none

3 A 4 bit microcontroller will have (A)
A) 4 bit ALU B) 8 bit ALU C) 16 bit ALU D) none

4 How many bytes of bit addressable memory is present in 8051 based micro controllers? (B)

A) 8 bytes B) 16 bytes C) 32bytes D) 64bytes

5 Which architecture is followed by general purpose microprocessors? (B)

A) Harvard architecture C) None of the mentioned

B) Von Neumann architecture D) All of the mentioned

6 8052 has --------- timers (A)

A) 3 B) 2 C) 1 D) 4

7 8051 is a -------_bit microcontroller (A)

A) 8 B) 16 C) 32 D) none

8 DPTR in 8051 is a _----------_bit register . (B)

A) 8 B) 16 C) 12 D) 4

9 Program counter in 8051 is -------_bit register (C)

A) 8 B) 12 C) 16

10 ALU in 8051 is of --------- bit (A)

A) 8 B) 16 C) 12 D) None of these

11 Register bank in 8051 is selected using --------_and --------- bits of PSW register (C)

A) RS0 B) RS1 C) Both a & b D) None

12 After reset program counter in 8051 has the value _____ (A)

A) 0000H B) FFFFH C) 00FFH D) FF00H

13 Port address of Port 0 in 8051 is _____ (A)

A) 80H B) 90H C) B0H D) None

14 Port address of Port 1 in 8051 is _____ (B)

A) 80H B) 90H C) B0H D) None

15 8051 series of micro controllers are made by which of the following companies (C)

A) Atmel B) Philips C) Both a & b D) None

16 When the micro controller executes some arithmetic operations, then the flag bits of which register are affected? (A)

A) PSW B) DPTR C) TMOD D) TCON

17 How are the bits of the register PSW affected if we select Bank2 of 8051? (D)

A) PSW.5=0 and PSW.4=1 C) PSW.3=1 and PSW.4=1

B) PSW.2=0 and PSW.3=1 D) PSW.3=0 and PSW.4=1

18 On power up, the 8051 uses which RAM locations for register R0- R7 (B)

A) 00-2F B) 00-07 C) 00-7F D) 00-0F

19 SFR address of PSW register is (C)

A) 0E0H B) 82H C) 0D0H D) 0A0H

20 In 8 bit signed number operations in 8051 , OV flag is set to 1 if: (D)

A) a carry is generated from D7 bit

B) a carry is generated from D3 bit

C) a carry is generated from D7 or D3 bit

D) a carry is generated from D7 or D6 bit

21 Which of the ports act as the 16 bit address lines for transferring data through it in 8051? (C)

A) PORT 0 and PORT 1 C) PORT 0 and PORT 2

B) PORT 1 and PORT 2 D) PORT 1 and PORT 3

22 Which of the following registers are not bit addressable in 8051? (B)

A) SCON B) PCON C) A D) PSW

23 An alternate function of port pin P3.4 in the 8051 is: (A)

A) Timer 0 B) Timer 1 C) interrupt 0 D) interrupt 1

24 Microcontrollers often have: (D)

A) CPUs B) RAM C) ROM D) all of the above

25 The total external data memory that can be interfaced to the 8051 is: (B)

A) 32K B) 64K C) 128K D) 256K

26 Bit-addressable memory locations in 8051 are: (B)

A) 10H through 1FH B) 20H through 2FH

C) 30H through 3FH D) 40H through 4FH

27 The 8-bit address bus allows access to an address range of: (C)
A) 0000 to FFFFH C) 00 to FFH
B) 000 to FFFH D) 0 to FH

28 The 8051 has _---------_parallel I/O ports. (C)
A) 2 B) 3 C) 4 D) 5

29 The number of data registers in 8051 is: (C)
A) 8 B) 16 C) 32 D) 64

30 What is the difference between the 8031 and the 8051? (B)
A) The 8031 has no interrupts. C) The 8051 is ROM-less.
B) The 8031 is ROM-less. D) The 8051 has 64 bytes more memory

31 The I/O port that does not have a dual-purpose role in 8051 is: (B)
A) port 0 B) port 1 C) port 2 D) port 3

32 A HIGH on which pin resets the 8051 microcontroller? (B)
A) RESET B) RST C) PSEN D) RSET

33 What is the clock source for the timers in 8051? (B)
A) some external crystal applied to the micro-controller for executing the timer
B) from the crystal applied to the micro-controller
C) through the software
D) through programming

34 What is the frequency of the clock that is being used as the clock source for the timer in 8051 ? (C)
A) Some externally applied frequency f'
B) Microcontroller's crystal frequency f
C) Microcontroller's crystal frequency /12
D) None

35 What is the function of the TMOD register in 8051? (A)
A) TMOD register is used to set different timer's or counter's to their appropriate modes
B) TMOD register is used to load the count of the timer.
C) Is the destination or the final register where the result is obtained after the operation of the time

D) Is used to interrupt the timer

36 Auto reload mode is allowed in which mode of the timer in 8051? (C)

A) Mode 0 B) Mode 1 C) Mode 2 D) Mode 3

37 Find out the roll over value for the timer in Mode 0, Mode 1 and Mode 2 in 8051? (C)

A) 00FFH,0FFFH,FFFFH C) 1FFFH,FFFFH,00FFH

B) 1FFFH,0FFFH,FFFFH D) 1FFFH,00FFH,FFFFH

38 What steps are followed when we need to turn on any timer in 8051? (B)

A) load the count, start the timer, keep monitoring it, stop the timer

B) load the TMOD register, load the count, start the timer, keep monitoring it, stop the timer

C) load the TMOD register, start the timer,load the count, keep monitoring it, stop the timer

D) none of the mentioned

39 TF1, TR1, TF0, TR0 are bits of_---------- register in 8051 ? (C)

A) TMOD B) SCON C) TCON D) SMOD

40 The address of PC is (C)

A)0008H B)0000H C)No address D)000FH

41 ---------- register is used to select serial communication of 8051 (C)

A) TMOD B) TCON C) SCON D) PSW

42 ---------- bit of TCON register is set if timer register over flows. (B)

A) IT_x B) TF_x C) Both a & b D) None of these

43 PCON is ---------- bit register of 8051 (A)

A) 8 B) 16 C) 4 D) Non

44 8052 has --------- amount of on chip RAM (B)

A) 4KB B) 256bytes C) 8KB D) None of these

45 What should be done if we want to double the baud rate in 8051? (B)

A) change a bit of the TMOD register C) change a bit of the SCON register

B) change a bit of the PCON register D) change a bit of the SBUF register

46 When any interrupt is enabled, then where does the pointer moves immediately after this interrupt has occurred in 8051? (C)

A) to the next instruction which is to be executed

B) to the first instruction of ISR

C) to the first location of the memory called the interrupt vector table

D) to the end of the program

47 Which register is used to make the pulse a level or a edge triggered pulse in 8051 ? (A)

A) TCON B) IE C) SBUF D) PSW

48 Which special function register play a vital role in the timer/counter mode selection process by allocating the bits in it in 8051? (A)

A) TMOD B) TCON C) SCON D) PCON

49 SBUF in 8051 is a register of :- (A)

A) 8 bit B) 16 bit C) 4 bit D) none

50 Who controls the timer1 especially when it is configured as a timer in mode'0',where gate and TR1 bits are attributed to be '1" in TMOD register in 8051? (B)

A) TR1

B) External input at (INT1)

C) TF1

D) All of the above

51. MOV 80H,@R0 takes ---------- oscillator period for execution (A)

A)24 B)12 C) 32 D)None of mentioned

52. OV flag affects in (B)

A) Multiply and Divide

B) Add,sub,multiply and divide

C) Add and Sub

D) Add,sub and multiply operations

52. OV flag affects in (B)

A) Multiply and Divide
B) Add,sub,multiply and divide
C) Add and Sub
D) Add,sub and multiply operations

53.SFR at address 83H has 20H and at 82H has FEH.INC DPTR (C)

A) Will not affect the SFRs
B) Will effect the DPH of DPTR
C) Will effect DPL of DPTR
D) Will affect both DPH and DPL

54.If A=05H and B=64h,then after MUL AB the SFRs at F0H and E0H (C)

A) Do not change
B) Equal 01h and F4H
C) Equal F4H and 01H
D) None of these

55.If C=1 and bit at P2.1=0,the ANL C,A0H execution is such that (A)

A) C can be either 1 or 0
B) C=0
C) P2.1
D) C and P2.1 both 1

56.AC flag affects in (C)

A) Multiply and Divide
B) Add,sub,multiply and divide
C) Add and Sub
D) Add,sub and multiply operations

57.The Carry flag affects in (D)

A) Add,sub,multiply and divide
B) Add,sub,increment and divide
C) Add,sub,RRC,RLC and Boolean processing instructions
D) Add,sub,RRC,RLCCJNE and Boolean processing instructions

58 Which of the following statements will add the accumulator and register 3? (D)

A) ADD @R3, @A B)ADD @A, R3
C) ADD R3, A D) ADD A, R3

59 Which of the following commands will move the number 27H into the accumulator in case of 8051? (B)

A)MOV A, P27 B) MOV A, #27H
C)MOV A, 27H D) MOV A, @27

60 Which of the following commands will copy the contents of RAM whose address is in register 0 to port 1 in 8051? (C)

A)MOV @ P1, R0 B)MOV @ R0, P1
C)MOV P1, @ R0 D)MOV P1, R0

61 Which of the following commands will copy the contents of location 4H to the accumulator in 8051 ? (A)

A)MOV A, 04H B)MOV A, L4

C)MOV 04, A D)None

62 Which among the below mentioned sequence of program instructions represent the correct chronological order for the generation of 2kHz square wave frequency for 8051?

1. MOV TMOD, 0000 0010 B
2. MOV TL0, # 06H
3. MOV TH0, # 06H
4. SETB TR0
5. CPL p1.0
6. ORG 0000H (B)

A)6, 5, 2, 4, 1, 3 B)6, 1, 3, 2, 4, 5 C)6, 5, 4, 3, 2, 1 D)6, 2, 4, 5, 1, 3

63 When the call instruction is executed the top most element of stack comes out to be (B)

A) the address where stack pointer starts

B)the address next to the call instruction

C)address of the call instruction

D)next address of the stack pointer

64 Are PUSH and POP instructions are a type of CALL instructions? (B)

A)yes B)no C)none of the mentioned D)Can't be determined

65 What is the time taken by one machine cycle if crystal frequency is 20MHz? (B)

A) 1.085 micro seconds B)0.60 micro seconds

C)0.75 micro seconds D)1 micro seconds

66 Which of the following comes under indexed addressing mode? (B)

A) MOVX A, @DPTR B) MOVC @A+DPTR,A

C) MOV A,R0 D) MOV @R0,A

67 What is the advantage of register indirect addressing mode? (B)

A) it makes use of registers R0 and R1 B)it uses the data dynamically

C)it makes use of operator @ D)it is easy

68 Which instruction is used to check the status of a single bit? (C)

A) MOV A,P0 B)ADD A,#05H C)JNB P0.0, label D)CLR P0.05H

69 When we add two numbers the destination address must always be. (C)

A) Some immediate data B)Any register C)Accumulator D)Memory

70 If SUBB A,R4 is executed, then actually what operation is being applied? (C)

A)R4+A B)R4-A C)A-R4 D)R4+A

71 A valid division instruction always makes: (C)

A) CY=0,AC=1 B)CY=1,AC=1 C)CY=0,AC=0 D)No relation with AC and CY

72 In 8 bit signed number operations, OV flag is set to 1 if: (D)

A)A carry is generated from D7 bit B)A carry is generated from D3 bit

C)A carry is generated from D7 or D3 bit D)A carry is generated from D7 or D6 bit

73 In unsigned number addition, status of which bit is important? (B)

A) OV B)CY C)AC D)PSW

74 Which instructions have no affect on the flags of PSW. (D)

A)ANL B)ORL C)XRL D)All of the mentioned

75 ANL instruction is used (C)

A) To AND the contents of the two registers B)To mask the status of the bits

C)All of the mentioned D)None of the mentioned

76 XRL, ORL, ANL commands have (A)

A) Accumulator as the destination address and any register, memory or any immediate data as the source address

B) Accumulator as the destination address and any immediate data as the source address

C) Any register as the destination address and accumulator, memory or any immediate data as the source address

D) Any register as the destination address and any immediate data as the source address

77 CJNE instruction makes (D)

A)The pointer to jump if the values of the destination and the source address are equal

B)Sets CY=1, if the contents of destination register is greater then that of the source register

C)Sets CY=0, if the contents of destination register is smaller then that of the source register

D)None of the mentioned

78 DIV AB instruction takes ---------clock cycles for execution (A)

A) 4 B) 3 C) 2 D) 1

79 In DIV instruction ,after execution quotient is stored in --------- register of 8051 (A)

A) A B) B C) R0 D) None of these

80 In DIV instruction ,before execution dividend is stored in --------- register of 8051 (A)

A) A B) B C) R0 D) None of these

81 In DIV instruction ,before execution divisor is stored in --------- register of 8051 (B)

A) A B) B C) R0 D) None of these

82 Indentify the addressing mode for instruction:- MOV A,50H (B)

A) Immediate B) Direct C) Indirect D) None of these

83 Indentify the addressing mode for instruction:- MOV A,#40H (A)

A) Immediate B) Direct C) Indirect D) None of these

84 Indentify the addressing mode for instruction:- ADD A,R0 (A)

A) Register C) Indirect

B) Direct D) None of these

85 The following instruction exchanges the upper and lower nibbles of accumulator of 8051 (A)

A) SWAP B) XCH C) ANL D) CJNE

86 The following instruction will clear the content of accumulator of 8051 (B)

A) CPL A B) CLR A C) Both a & b D) None of these

87 The following instructions is used to make a bit of bit addressable register or port pin of 8051 at logic 1. (A)

A) SETB B) CLR C) CPL D) AN

88 The following instructions is used to make a bit of bit addressable register or port pin of 8051 at logic 0. (B)

A) SETB B) CLR C) CPL D) ANL

89 The value of R0 in the following program after execution is :

```
MOV R0,#24
INC R0
SJMP $
END
```

(A)

A) 25 B) 23 C) 26 D) None of these

90 The value of R1 in the following program after execution is :

```
MOV R1,#25
DEC R1
DEC R1
SJMP $
END
```

(B)

A) 24 B) 23 C) 26 D) None of these

91 The instruction MOV A,@R0 will (A)

A) Copy the content of RAM memory location indicated by R0 to A
B) Copy the content of R0 to A
C) Copy the content of A to R0
D) None of these

92 The delay produced after the execution of following program using crystal oscillator frequency 11.0592 MHz is:-

```
MOV R0,#255
HERE: DJNZ R0,HERE
RET
```

(A)

A) 556.605µs B) 400µs C) 100µs D) None of these

93 The output of the accumulator(in hex) after the execution of following program is:

```
MOV A,#00101000B
RRA
SJMP $
END
```

(A)

A) 14H B) 12H C) 11H D) None of these

94 MOV instruction takes ------- clock cycle for execution (D)

A) 2 B) 3 C) 4 D) None of these

95 LCALL stands for (B)

A) Loop call B) Long call C) Latest call D) None of these

96 If you want to call a subroutine from main program within 2KB of code memory then you should use following instruction (C)

A) AJMP B) SJMP C) ACALL D) None of these

97 If you want to Jump to a label from main program within 2KB of code memory then you should use following instruction (B)

A) AJMP B) SJMP C) ACALL D) None of these

98 If you want to call a subroutine from main program more than 2KB of code memory then you should use following instruction (D)

A) AJMP B) SJMP C) ACALL D) LCALL

99 The output of register A after the execution of following program is :

```
MOV A,#24H
ANL A,#0FH
SJMP $
END
```

(A)

A) 04 B) 20 C) 00 D) None of these

100 The output of register A after the execution of following program is :-

```
MOV A,#00H
CPL A
SJMP $
END
```

(A)

A) FFH D) None of these

B) FEH

C) 00

101. The external interrupts of 8051 can be enabled by [D]
A) 4 LSBs of TCON register B) Interrupt enable
C) priority register D) all of the mentioned

102. What are the contents of IE register, when the interrupt of the memory location 0x00 is caused? [B]
A) 0xFFH B) 0x00H C) 0x10H D) 0xF0H

103. The bits that control the external interrupts are [C]
A) ET0 and ET1 B) ET1 and ET2
C) EX0 and EX1 D) EX1 and EX2

104. EA bit is used to [C]
A) enable or disable external interrupts B) enable or disable internal interrupts
C) enable or disable all the interrupts D) none

105. The number of priority levels that each interrupt of 8051 have is [B]
A) 1 B) 2 C) 3 D) 4

106. The priority level of an interrupt of 8051 for which SI(serial interrupt) interrupt is programmed is [B]
A) level 0 B) level 1 C) level 0 or level 1 D) none

107. Which pin of the external hardware is said to exhibit INT0 interrupt? [C]
A) pin no 10 B) pin no 11 C) pin no 12 D) pin no 13

108. The interrupt bit that when set works at level 1, and otherwise at level 0 is [D]
A) PT1 B) PT0 C) PX1 D) All

109. All the interrupts at level 1 are polled in the second clock cycle of the [B]
A) forth T state B) fifth T state C) third T state D) none

110. The minimum duration of active low interrupt pulse for being sensed without being lost must be[B]
A) greater than one machine cycle B) equal to one machine cycle
C) greater than 2 machine cycles D) equal to 2 machine cycles

111. If two interrupts, of higher priority and lower priority occur simultaneously, then the service provided is for [B]
A) interrupt of lower priority B) interrupt of higher priority
C) lower & higher priority interrupts D) none

112. Which bit of the IE register is used to enable TxD/RxD interrupt? [D]
A) IE.D5 B) IE.D2 C) IE.D3 D) IE.D4

113. Which among the below mentioned functions does not belong to the category of alternate functions usually performed by Port 3 (Pins 10-17)? [B]
A) External Interrupts B) Internal Interrupts
C) Serial Ports D) Read / Write Control signals

114. For an interrupt to be guaranteed served it should have duration of [C]
A) one machine cycle B) three machine cycles
C) two machine cycles D) four machine cycles

115. The service to an interrupt will be delayed if it appears during the execution of [D]
A) RETI instruction B) Instruction that writes to IE register
C) Instruction that writes to IP register D) All

116. Which register is used to make the pulse a level or an edge triggered pulse? [A]
A) TCON B) IE C) IPR D) SCON

117. What is the correct order of priority that is set after a controller gets reset? [C]
A) TxD/RxD > T1 > T0 >EX1 > EX0 B) TxD/RxD < T1 < T0<EX1 < EX0
C) EX0 > T0 > EX1 >T1> TxD/RxD D) EX0 < T0 < EX1 < T1 < TxD/RxD

118. Which of the following combination is the best to enable the external hardware interrupt 0 of the IE register (assuming initially all bits of the IE register are zero)? [D]

A) EX0=1 B) EA=1 C) any of the mentioned D) EX0=1 & EA=1

119. In 8051 which interrupt has highest priority? [C]

A)IE1 B)TF0 C)IE0 D)TF1

120. Which of the following is an external interrupt? [A]

A) INT0(active low) B) INT2(active low)

C) Timer0 interrupt D) Timer1 interrupt

121. The atleast number of machine cycles for which the external interrupts that are programmed level-sensitive should remain high is [B]

A) 1 B) 2 C) 3 D) 0

122. The serial port interrupt is generated if [C]

A) RI is set B) RI and TI are set

C) Either RI or TI is set D) RI and TI are reset

123. If the external interrupt sources control the flags IE0 and IE1, then the interrupt programmed is [A]

A) level-sensitive B) edge-sensitive

C) in serial port D) in parallel port

124. The interrupts, INT0(active low) and INT1(active low) are processed internally by flag [A]

A) IE0 and IE1 B) IE0 and IF1

C) IF0 and IE1 D) IF0 and IF1

125. Function of IE1 in TCON register? [A]

A) External interrupt 1 Edge flag. Not related to timer operations

B) External interrupt 1 Edge flag. Not related to timer operations

C) External interrupt 0 single type control bit

D) External interrupt 1 to be triggered by a falling edge signal

Signature of Faculty **Signature of HoD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.Tech– II Sem (MR 17-2017-18 Admitted Students)
I Mid Examination Subjective Question Bank

Subject: Software Quality Assurance and Testing **Branch /Specialization: IT**
Name of the faculty: K. Selva sundari

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
	Module I		
1.	Summarize the steps briefly of software quality assurance.	Understanding	1
	OR		
2.	Explain about ISO 9000 and its standards and CMMI.	Understanding	1
3.	List out the steps in SQA.	Analyzing	1
	OR		
4.	Classify about components of SQA.	Analyzing	1
5.	Explain about PCMM.	Understanding	1
	OR		
6.	Explain briefly about 6 sigma technology.	Understanding	1
7.	Explain about Malcom Balrdige method.	Understanding	1
	OR		
8.	Classify CMM and CMMI.	Understanding	1
	Module II		
1.	Explain about software quality metrics.	Analyzing	II
	OR		

2.	Explain about product quality metrics.	Analyzing	II
3.	Demonstrate in detail In – Process quality metrics.	Understanding	II
	OR		
4.	Illustrate on metrics for software maintenance.	Understanding	II
5.	Explain with example for metric programs.	Understanding	II
	OR		
6.	Write about establishing quality requirements.	Understanding	II
7.	Compare and contrast identifying and implementing software quality metrics.	Analyzing	II
	OR		
8.	Explain about validating software quality metrics.	Analyzing	II
	Module III		
1.	Explain in detail about testing policy.	Understanding	III
	OR		
2.	Explain in detail about structured approach to testing.	Understanding	III
3.	Write about test factors.	Analyzing	III
	OR		
4.	Explain in detail about economics of system development life cycle.	Analyzing	III

Signature of the Faculty **Signature of the HoD**

MALLA REDDY ENGINEERING COLLEGE

(Autonomous)

Maisammaguda, Dhullapally, Post via Kompally, Secunderabad – 500100.

Name of the Subject: Software Quality Assurance and Testing
Name of the faculty: K.Selvasundari
Department : Information Technology

Objective Questions

1. Which requirements are the foundation from which quality is measured? [ ]
a) Hardware b) Software c) Programmers d) None of the mentioned

2. Which of the following is not included in failure costs? [ ]
a) rework b) repair c) failure mode analysis d) none of the mentioned

3. Which of the following is not a SQA plan for a project? [ ]
a) evaluations to be performed b) amount of technical work
c) audits and reviews to be performed
d) documents to be produced by the SQA group

4. Degree to which design specifications are followed in manufacturing the Product is called [ ]
a) Quality Control b) Quality of conformance
c) Quality Assurance d) None of the mentioned

5. Which of the following is not included in External failure costs? [ ]
a) testing b) help line support c) warranty work d) complaint resolution

6. Which of the following is not an appraisal cost in SQA? [ ]
a) inter-process inspection b) maintenance c) quality planning d) testing

7. Who identifies, documents, and verifies that corrections have been made to the software? [ ]
a) Project manager b) Project team c) SQA group d) All of the mentioned

8. The primary objective of formal technical reviews is to find _____ during the process so that they do not become defects after release of the software. [ ]
a) errors b) equivalent faults c) failure cause d) none of the mentioned

9. What is not included in prevention costs? [ ]
a) quality planning b) formal technical reviews c) test equipment
d) equipment calibration and maintenance

10. SMI = [Mt – (Fa + Fc + Fd)]/Mt. Here Mt is the number of modules [ ]

a) in the current release b) in the current release that have been changed
c) from the preceding release that were deleted in the current release
d) none of the mentioned

11. Which of the following is not a metric for design model? [ ]
a) Interface design metrics b) Component-level metrics
c) Architectural metrics d) Complexity metrics

12. Statement and branch coverage metrics are part of [ ]
a) Analysis Model b) Testing c) Design Model d) Source Code

13. Function Points in software engineering was first proposed by [ ]
a) Booch b) Boehm c) Albrecht d) Jacobson

14. How many Information Domain Values are used for Function Point Computation? [ ]
a) three b) four c) five d) six

15. Function Point Computation is given by the formula [ ]
a) FP = [count total * 0.65] + 0.01 * sum(Fi)
b) FP = count total * [0.65 + 0.01 * sum(Fi)].
c) FP = count total * [0.65 + 0.01] * sum(Fi)
d) FP = [count total * 0.65 + 0.01] * sum(Fi)

16. Architectural Design Metrics are _____ in nature. [ ]
a) Black Box b) White Box c) Gray Box d) Green Box

17. Structural complexity of a module i is given as S(i) = f*f (i). What does [ ]
f symbolizes here?
a) “fan check-out” of module I b) “fan check-in” of module i
c) “fan in” of module I d) “fan out” of module i

18. SMI stands for [ ]
a) Software Mature Indicator b) Software Maturity Index
c) Software Mature Index d) Software Maturity Indicator

19. CMM stands for [ ]
a) Capability Management Module b) Conservative Maturity Model
c) Capability Maturity Module d) Capability Maturity Model

20. According to ISO 9001, the causes of nonconforming product should be [ ]
a) deleted b) eliminated c) identified d) eliminated and identified

21. CO policy in CMM means [ ]
a) The leadership practices in Commitment to Perform
b) The organizational structure (groups) practices in Ability to Perform
c) The policy practices in Commitment to Perform
d) The planning practices in Commitment to Perform

22. ISO 9001 is not concerned with _____ of quality records. [ ]
a) collection b) maintenance c) verification d) dis-positioning

23. Which of the following is not a maturity level in CMM? [ ]
a) Design b) Repeatable c) Managed d) Optimizing

24. In CMM, the life cycle activities of requirements analysis, design, code, [ ]
and test are described in
a) Software Product Engineering b) Software Quality Assurance
c) Software Subcontract Management d) Software Quality Management

25. Which of the following requires design control measures, such as holding [ ]
and recording design reviews and qualification tests?
a) CMM b) ISO 9001 c) ISO 9000-3 d) None of the mentioned

26. The CMM emphasizes [ ]
a) continuous process improvement b) the need to record information
c) the need to accept quality system d) none of the mentioned

27._____ states that, where appropriate, adequate statistical techniques are identified [ ]
and used to verify the acceptability of process capability and product characteristics.
a) ISO 9001 b) ISO 9000-4 c) CMM d) All of the mentioned

28. IEEE 829 test plan documentation standard contains all of the following except [ ]
a) Test items b) Test deliverables c) Test specifications d) Test tasks

29. When should testing be stopped? [ ]
a) When all the planned tests have been run b) When all faults have been fixed correctly
c) When time has run out d) It depends on the risks for the system being tested

30. Which of the following statements is not true [ ]
a) Test environments should be as similar to production environments as possible
b) The acceptance test does not necessarily include a regression test
c) Verification activities should not involve testers (reviews, inspections etc)
d) Performance testing can be done during unit testing as well as during the testing
of whole system

31. In which order should tests be run? [ ]
a) The most important tests first b) The order they are thought of
c) The easiest tests first(to give initial confidence)
d) The most difficult tests first(to allow maximum time for fixing)

32. When should you stop testing? [ ]
a) When time for testing has run out. b) When the test completion criteria have been met
c) When all planned tests have been run d) When no faults have been found by the tests run

33. Which of the following is true? [ ]
a) Component testing should be black box, system testing should be

white box.
b) The more tests you run, the more bugs you will find.
c) The fewer bugs you find,the better your testing was
d) If you find a lot of bugs in testing, you should not be very confident about the quality of software

34. Which of the following is NOT a type of non-functional test? [ ]
a) Performance b) Usability c) State-Transition d) Security

35. Which of the following tools would you use to detect a memory leak? [ ]
a) State analysis b) Coverage analysis
c) Memory analysis d) Dynamic analysis

36. Which of the following statements are true? [ ]
a) Faults in program specifications are the most expensive to fix.
b) Faults in code are the most expensive to fix.
c) Faults in designs are the most expensive to fix.
d) Faults in requirements are the most expensive to fix

37. Enough testing has been performed when: [ ]
a) No more faults are found. b) The required level of confidence has been achieved.
c) Time runs out. d) The users won't find any serious faults.

38. Which one of the following statements, about capture-replay tools, is NOT correct? [ ]
a) They are used to support multi-user testing.
b) They are used to capture and animate user requirements.
c) They capture aspects of user behavior.
d) They are the most frequently purchased types of CAST tool.

39. How would you estimate the amount of re-testing likely to be required? [ ]
a) Metrics from previous similar projects
b) Discussions with the development team
c) a & b d) Time allocated for regression testing

40. Which of the following should NOT normally be an objective for a test? [ ]
a) To find faults in the software.
b) To assess whether the software is ready for release.
c) To prove that the software is correct.
d) To demonstrate that the software doesn't work.

41. Which of the following is a form of functional testing? [ ]
a) Usability testing b) Boundary value analysis
c) Performance testing d) Security testing

42. A deviation from the specified or expected behavior that is visible to end-users is called: [ ]
a) an error b) a fault c) a failure d) a defect

43. A configuration management system would NOT normally provide: [ ]
a) Linkage of customer requirements to version numbers.
b) The precise differences in versions of software component source code.
c) Facilities to compare test results with expected results.
d) Restricted access to the source code library

44. Test cases are designed during: [ ]
a) Test recording. b) Test configuration. c) Test planning.
d) Test specification

45. Which of the following statements about reviews is true? [ ]
a) Reviews should be performed on specifications, code, and test plans
b) Reviews are the least effective way of testing code.
c) Reviews are unlikely to find faults in test plans.
d) Reviews cannot be performed on user requirements specifications.

46. In case of Large Systems [ ]
a) Only few tests should be run
b) Test Cases written by good test engineers should be executed
c) Only Good Test Cases should be executed
d) Testing should be on the basis of Risk

47. Which of the following will be the best definition for Testing : [ ]
a) Testing is executing Software for the purpose of finding defects
b) The purpose of testing is to demonstrate that the program is defect free
c) The purpose of testing is to demonstrate that the program does what it is supposed to do
d) The goal / purpose of testing is to demonstrate that the program works.

48. Which of the following is not a type of incremental testing approach? [ ]
a) Big-bang b) Top down c) Bottom up d) Functional incrimination

49. Test Conditions are derived from [ ]
a) Test Design b) Test Cases c) Test Data d) Specifications

50. Pick the best definition of quality [ ]
a) Quality is job one b) Zero defects c) Work as designed d) Conformance to requirements

51. Fault Masking is [ ]
a) Creating a test case which does not reveal a fault
b) Error condition hiding another error condition
c) Masking a fault by developer
d) Masking a fault by a tester

52. Boundary value testing [ ]
a) Is the same as equivalence partitioning tests
b) Tests combinations of input circumstances
c) Test boundary conditions on, below and above the edges of input and output equivalence classes
d) Is used in white box testing strategy

53. One Key reason why developers have difficulty testing their own work is: [ ]
a) Lack of technical documentation b) Lack of test tools on the market for developer's
c) Lack of Objectivity d) Lack of training

54. In a review meeting a moderator is a person who: [ ]
a) Takes minutes of the meeting b) Takes telephone calls
c) Mediates between people d) Writes the documents to be reviewed

55. Acceptance test cases are based on what? [ ]
a) Decision table b) Design c) Code d) Requirements

56. How much testing is enough? [ ]
a) This question is easy to answer b) This question is impossible to answer
c) The answer depends on the risk for your industry, contract and special requirements
d) This answer depends on the maturity of your developers

57. Which of the following is the component test standard? [ ]
a) IEEE 610 b) IEEE 829 c) BS7925-1 d) BS7925-2

58. Which of the following is NOT a standard related to testing? [ ]
a) IEEE610 b) IEEE829 c) BS7925-1 d) BS7925-2

59. The standard that gives definitions of testing terms is: [ ]
a) ISO/IEC 12207 b) BS 7925-1 c) ANSI/IEEE 729 d) ANSI/IEEE 829

60. Which of the following is NOT true of incidents? [ ]
a) Incidents are raised when expected and actual results differ.
b) Incidents may be raised against user requirements.
c) Incidents require investigation and/or correction.
d) Incident resolution is the responsibility of the author of the software under test.

61. Which of the following is false? [ ]
a) In a system two different failures may have different severities.
b) A fault need not affect the reliability of a system.
c) A system is necessarily more reliable after debugging for the removal of a fault.
d) Undetected errors may lead to faults and eventually to incorrect behavior.

62. Which of the following does not affect the software quality and organizational performance? [ ]
a) Market b) Product c) Technology d) People

63. The intent of project metrics is: [ ]
a) Minimization of development schedule b) For strategic purposes
c) Assessing project quality on ongoing basis d) Minimization of development schedule and assessing project quality on ongoing basis

64. Which of the following is not a direct measure of SE process? [ ]

a) Efficiency b) Cost c) Effort Applied d) All of the mentioned

65. Which of the following is an indirect measure of product? [ ]
a) Quality b) Complexity c) Reliability d) All of the Mentioned

66. In size oriented metrics, metrics are developed based on the _____ [ ]
a) number of Functions b) number of user inputs
c) number of lines of code d) amount of memory usage

67. Which of the following is not an information domain required for determining function point in FPA ? [ ]
a) Number of user Input b) Number of user Inquiries
c) Number of external Interfaces d) Number of errors

68. Usability can be measured in terms of: [ ]
a) Intellectual skill to learn the system b) Time required becoming moderately efficient in system usage
c) Net increase in productivity d) All of the mentioned

69. A graphical technique for finding if changes and variation in metrics data are meaningful is known as [ ]
a) DRE (Defect Removal Efficiency) b) Function points analysis
c) Control Chart d) All of the mentioned

70. Defects removal efficiency (DRE)depends on: [ ]
a) E – errors found before software delivery b) D – defects found after delivery to user
c) Both E and D d) Varies with project

71. Which of the following is the task of project indicators: [ ]
a) help in assessment of status of ongoing project b) track potential risk
c) help in assessment of status of ongoing project & track potential risk
d) none of the mentioned

72. Which is the first step in the software development life cycle ? [ ]
a) Analysis b) Design c) Problem/Opportunity Identification d) Development and Documentation

73. Which tool is use for structured designing ? [ ]
a) Program flowchart b) Structure chart
c) Data-flow diagram d) Module

74. A step by step instruction used to solve a problem is known as [ ]
a) Sequential structure b) A List
c) A plan d) An Algorithm

75. In the Analysis phase, the development of the _____ occurs, which is a clear statement of the goals and objectives of the project. [ ]
a) documentation b) flowchart

c) program specification d) design

76. Actual programming of software code is done during the _____ step in the SDLC. [ ]
a) Maintenance and Evaluation b) Design
c) Analysis d) Development and Documentation

77. Who designs and implement database structures. [ ]
a) Programmers b) Project managers
c) Technical writers d) Database administrators

78. _____ is the process of translating a task into a series of commands that a computer will use to perform that task. [ ]
a) Project design b) Installation
c) Systems analysis d) Programming

79. Debugging is: [ ]
a) creating program code b) finding and correcting errors in the program code
c) identifying the task to be computerized d) creating the algorithm

80. In Design phase, which is the primary area of concern ? [ ]
a) Architecture b) Datac) Interface d) All of the mentioned

81. The importance of software design can be summarized in a single word which is: [ ]
a) Efficiency b) Accuracy c) Quality d) Complexity

82. Cohesion is a qualitative indication of the degree to which a module [ ]
a) can be written more compactly
b) focuses on just one thing
c) is able to complete its function in a timely manner
d) is connected to other modules and the outside world

83. Coupling is a qualitative indication of the degree to which a module [ ]
a) can be written more compactly b) focuses on just one thing
c) is able to complete its function in a timely manner
d) is connected to other modules and the outside world

84) Requirement Engineering is not concern with _____. [ ]
a. Requirement Design b. Requirement Elicitation
c. Requirement Analysis d. Requirement Documentation

85) When an expected result is not specified in test case template then _____. [ ]
a. We cannot run the test. b. It may be difficult to repeat the test.
c. It may be difficult to determine if the test has passed or failed.
d. We cannot automate the user inputs.

86) A test technique that involves testing with various ranges of valid and invalid inputs of a particular module or component functionality extensively is _____. [ ]

a. Gorilla Testing b. Monkey Testing
c. Agile Testing d. Baseline Testing

87) End result of Software Requirement Analysis is _____. [ ]
a. Functional and Behavioral b. Architectural and Structural
c. Usability and Reliability d. Algorithmic and Data Structure

88) Bug status is set to postpone due to _____. [ ]
a. Priority of that bug may low. b. Lack of time for the release.
c. The bug may not be the major effect in the software.
d. Data may be unavailable.

89) Which Testing is performed first? [ ]
a. Black box testing b. White box testing
c. Dynamic testing d. Static testing

90) Verification and Validation uses _____. [ ]
a. Internal and External resources respectively. b. Internal resources only.
c. External resources only. d. External and Internal resources respectively.

91) Testing beyond normal operational capacity is _____. [ ]
a. Load testing b. Performance testing c. Stress testing d. All of these.

92) The expected results of the software is _____. [ ]
a. Only important in system testing b. Only used in component testing
c. Most useful when specified in advance d. Derived from the code.

93) Which is not true? [ ]
a. Condition coverage is also known as Predicate Coverage
b. 100% condition coverage does not guarantee 100% decision coverage.
c. Error guessing has rules for testing.
d. Predicate Coverage uses Boolean values.

94) When different combination of input requires different combination of actions, [ ]
Which of the following technique is used in such situation?
a. Boundary Value Analysis b. Equivalence Partition
c. Decision Table d. Decision Coverage

95) Which of the following is not a part of Performance Testing? [ ]
a. Measuring Transaction Rate b. Measuring Response Time.
c. Measuring the LOC. d. None of the above.

96) Which of the following is a software metric that provides a quantitative [ ]
measure of the logical complexity of a program?
a. Cyclomatic Complexity b. LOC
c. Function Point d. None of the above.

97) Which of the followings are Experience Based Techniques? [ ]

a. Error guessing b. Equivalent partitioning
c. Exploratory testing d. Both a and c

98) What are the advantages of Agile Testing? [ ]
a. Saves time b. Requires less planning and creates less documentation
c. Regular feedback from end users d. All the above

99) What is true regarding Static Analysis Tools? [ ]
a. It compares actual and expected result. b. It can detect memory leaks.
c. It gives quality information about code without executing it.
d. It tell about percentage of a code coverage.

100) Followings are the Fundamental Test Processes arranged randomly. [ ]
What will be the logical sequential flow of these activities?
1. Test Closure Activity 2. Implementation and Execution
3. Evaluating Exit Criteria and Reporting 4. Analysis and Design
5. Planning and Control
a. 5,4,2,1,3 b. 5,2,3,4,1 c. 5,4,2,3,1 d. 5,2,4,3,1

101) Arrange the following phases of a Formal Review according to the order in which they are conducted. [ ]
1. Preparation 2. Kick of
3. Review meeting 4. Planning
5. Follow up 6. Rework
a. 1,2,4,3,6,5 b. 4,1,2,3,6,5 c. 4,2,1,3,6,5 d. 4,2,1,3,5,6

102) The order in which test levels are performed is: [ ]
a) Unit, Integration, Acceptance, System b) Unit, System, Integration, Acceptance
c) Unit, Integration, System, Acceptance d) It depends on the nature of a project

103) System testing is a [ ]
a) Black box testing b) Grey box testing
c) White box testing d) Both a and b

104) What is "V" Model? [ ]
a) Test Design Technique b) Test Type
c) SDLC Model d) Test Level

105) Test cases are designed during which of the following stages? [ ]
a) Test recording b) Test configuration
c) Test planning d) Test specification

106) Which is not the other name for structural testing? [ ]
a) Behavioral testing b) Glass box testing
c) White box testing d) None of the above

107) The technique applied for usability testing is: [ ]
a) White box b) Grey box c) Black box d) Combination of all of the system.

108) Which of the following is not a Test Type? [ ]
a) Database Testing b) Security Testing c) Statement Testing d) Functional Testing

109) Static analysis can be best described as: [ ]
a) The reviewing of test plans b) The analysis of batch programs
c) The use of black box testing d) The analysis of program code

110) Exhaustive testing is: [ ]
a) Always possible b) Impractical but possible
c) Practically possible d) Impractical and impossible

111) Which is not a type of incremental testing approach? [ ]
a) Bottom up b) Top down c) Big-bang d) Functional incrimination

112) White-box testing can be started: [ ]
a) After installation b) After SRS creation
c) After programming d) After designing

113) What is Fault Masking? [ ]
a) Creating a test case which does not reveal a fault
b) Error condition hiding another error condition
c) Masking a fault by developer
d) Masking a fault by a tester

114) Which of the following is the component test standard? [ ]
a) BS7925-2 b) IEEE 829 c) BS7925-1 d) IEEE 610

115) Testing of software with actual data and in actual environment is known as? [ ]
a) Regression testing b) Beta testing c) Alpha testing d) None of the above

116) Beta Testing is done at: [ ]
a) Developer's end b) User's end c) User's & Developer's end d) None of the mentioned

117) A program with high cyclometic complexity is likely to be: [ ]
a) Large b) Small c) Difficult to write d) Difficult to test

118) Unit testing is done by: [ ]
a) Users b) Developers c) Customers d) None of the mentioned

119) Which of the following is not a Software Development Life Cycle Phase? [ ]
a) Requirements Gathering b) Test Closure c) Coding d) Testing

120) In order to control cost, defects should ideally be detected in which phase: [ ]
a) Coding b) Design c) Implementation d) Requirements Gathering

121) Error guessing is a: [ ]
a) Test verification techniques b) Test data management techniques

c) Test control management techniques d) Test execution techniques

122) Which of the following is not a white box technique? [ ]
a) State transition testing b) Path testing
c) Statement testing d) Data flow testing

123) Alpha testing is:
a) Post-release testing by end user representatives at the developer's site [ ]
b) The first testing that is performed
c) Pre-release testing by end user representatives at their sites
d) Pre-release testing by end user representatives at the developer's site

124) Which of the following is/are Structural Testing Technique? [ ]
a. Statement Coverage b. Decision Coverage
c. Condition Coverage d. All of the above

125) Which are the benefits of Static Testing? [ ]
a. Early feedback of a quality. b. Less rework cost.
c. Increased developmental productivity. d. All of the above