University of Mumbai

Examination 2020 under cluster 2 (RGIT)

Note: “These are sample MCQs to indicate pattern, may or not appear in examination.”

University of Mumbai
Examination 2020 under cluster 2 (RGIT)

Program: TE Computer Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: CPC504and Course Name: Computer Networks

Time: 1hour Max. Marks: 50

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

Q1.	Protocol data unit (PDU) of network layer is called
Option A:	bit
Option B:	frame
Option C:	segment
Option D:	packet
Q2.	How many layers are present in ISO OSI reference model?
Option A:	5
Option B:	7
Option C:	6
Option D:	10
Q3.	Which connector is used in twisted pair cable?
Option A:	BNC
Option B:	RJ-45
Option C:	SC
Option D:	ST
Q4.	----------_devices can be connected using cross over cable.
Option A:	PC to switch
Option B:	router to PC
Option C:	pc to pc
Option D:	pc to switch
Q5.	In slotted ALOHA, the vulnerable time is _____ the frame transmission time.
Option A:	same as
Option B:	two times
Option C:	three times
Option D:	four times

Q6.	HDLC is an acronym for _____.
Option A:	Half-duplex digital link combination
Option B:	Host double-level circuit
Option C:	High-duplex line communication
Option D:	High-level data link control
Q7.	What is subnetting?
Option A:	Split a large network into multiple small networks.
Option B:	Combine multiple small networks in a single large network.
Option C:	Enable network to accept more hosts
Option D:	Connect a new network to an existing network
Q8.	TCP sequence number field is of
Option A:	8 bit
Option B:	16 bit
Option C:	24 bit
Option D:	32 bit
Q9.	Telnet protocol is used to establish a connection to
Option A:	Port number 21
Option B:	Port number 22
Option C:	Port number 23
Option D:	Port number 24
Q10.	SNMP is a framework for managing devices in an internet using
Option A:	TCP/IP protocol
Option B:	UDP
Option C:	SMTP
Option D:	FTP
Q11.	What is the purpose of random exponential back-off algorithm?
Option A:	It guarantees that collision will not happen on next try
Option B:	It decreases the chance of collision during next try
Option C:	It increases congestion in the network
Option D:	It decreases latency of packets
Q12.	Bluetooth technology uses the _____ ISM spectrum band.
Option A:	2.4 MHz
Option B:	2.4 GHz
Option C:	2.4 KHz
Option D:	2.4 Hz

Q13.	ADSL offers speed up to _____ Mbps by dividing local loop into many virtual channels and modulating each one separately.
Option A:	40
Option B:	60
Option C:	100
Option D:	50
Q14.	Which address is used to identify a process on a host by the transport layer?
Option A:	Physical address
Option B:	Logical address
Option C:	Port address
Option D:	Specific address
Q15.	Which of the following is not a field in routing table?
Option A:	Mask
Option B:	Network address
Option C:	Flags
Option D:	Datagram subnet
Q16.	Maximum size of Ethernet frame is _____ bytes.
Option A:	1500
Option B:	1518
Option C:	1600
Option D:	1456
Q17.	_____protocol is used for pulling messages from a mail server.
Option A:	TCP
Option B:	POP3
Option C:	FTP
Option D:	UDP
Q18.	SNMP is a framework for managing devices in an internet using _____protocol.
Option A:	SMTP
Option B:	UDP
Option C:	SNMP
Option D:	TCP/IP
Q19.	Which device forwards packets between networks by processing the routing information included in the packet?
Option A:	Bridge
Option B:	Firewall
Option C:	Router
Option D:	Hub
Q20.	Shannon Capacity (Noisy Channel) is calculated using

Option A:	C = B log2 (1 + S/N)
Option B:	C = B log2 (1 - S/N)
Option C:	C = B log2 (1 + N/S)
Option D:	C = B log2 (S/N)
Q21.	The message 11001001 is to be transmitted using the CRC polynomial x^3 + 1 to protect it from errors. The message that should be transmitted is:
Option A:	11001001000
Option B:	11001001011
Option C:	11001010
Option D:	110010010011
Q22.	Identify the class of given IP address 252.5.15.111
Option A:	Class A
Option B:	Class B
Option C:	Class D
Option D:	Class E
Q23.	Which of the following Transport Primitives are used in BERKELEY Sockets?
Option A:	LISTEN,CONNECT,SEND, DISCONNECT
Option B:	SOCKET, BIND, LISTEN, ACCEPT
Option C:	RECEIVE, LISTEN, SEND, CONNECT
Option D:	DISCONNECT, LISTEN,CONNECT,SEND
Q24.	Which of the following is the secured alternative of telnet?
Option A:	TFTP
Option B:	FTP
Option C:	rlogin
Option D:	Secure Shell (SSH)
Q25.	_____ is the first step taken by a reactive fault management system.
Option A:	Correcting
Option B:	Isolating
Option C:	Detecting
Option D:	Recording

University of Mumbai
Examination 2020 under cluster 2 (RGIT)

Program: BE Mechanical Engineering

Curriculum Scheme: Revised-2012

Examination: Third Year Semester V

Course Code: MEC504 and Course Name: Theory of Machine-II

2909_R12_Mech_V_MEC504_QP4

Time: 1hour Max. Marks: 50

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

Q1.	While considering the effect of Gyroscopic couple on a 4-wheeler, track width is?
Option A:	Difference between radii of turning of outside and inside front wheels
Option B:	Distance between the front and rear axles
Option C:	Difference between radii of turning of outside and inside rear wheels
Option D:	Distance between the centers of two wheels on same axle
Q2.	In which of the gearbox sun and planet gear set is used?
Option A:	Constant-mesh gearbox
Option B:	Sliding mesh gearbox
Option C:	Synchromesh gearbox
Option D:	Epicyclical gearbox
Q3.	The frictional torque transmitted by a disc or plate clutch is same as that of
Option A:	flat pivot bearing
Option B:	flat collar bearing
Option C:	conical pivot bearing
Option D:	trapezoidal pivot bearing
Q4.	Which of the following statements is/are true? 1. Static force analysis does not consider inertia forces along with static forces 2. The SI unit of mass moment of inertia is kg/m2 3. Mass moment of inertia of a thin disc about its diameter is given by (mr2) / 2
Option A:	Only 1
Option B:	Only 2
Option C:	Only 3
Option D:	2 and 3
Q5.	Which of the following is an absorption type dynamometer?
Option A:	prony brake dynamometer
Option B:	epicyclic-train dynamometer
Option C:	torsion dynamometer

Option D:	rope brake dynomometer
Q6.	The engine of an aeroplane rotates in clockwise direction when seen from the tail end and the aeroplane takes a turn to the left. The effect of gyroscopic couple on the aeroplane will be?
Option A:	to dip the nose and tail
Option B:	to raise the nose and tail
Option C:	to raise the nose and dip the tail
Option D:	to dip the nose and raise the tail
Q7.	The controlling force in centrifugal governors is provided by
Option A:	Flyballs
Option B:	Sleeve
Option C:	Upper links
Option D:	Lower links
Q8.	Why are the helical gears used commonly in transmission over spur gears?
Option A:	Low cost and high strength
Option B:	Low noise level and high strength
Option C:	Low noise level and economy
Option D:	Low noise level and low cost
Q9.	Which of the following type of brakes can bring the member to an absolute rest?
Option A:	Hydraulic
Option B:	Electric
Option C:	Mechanical
Option D:	Fluid agitator
Q10.	The ratio of maximum fluctuation of speed to the mean speed is called
Option A:	Fluctuation of speed
Option B:	Maximum fluctuation of speed
Option C:	Coefficient of fluctuation of speed
Option D:	Minimum fluctuation on speed
Q11.	In a conical clutch, if Wn is the normal load acting on the friction surface, μ is the coefficient of friction and α is the semi cone angle then what is the axial force required for disengaging the clutch (Wd)?
Option A:	Wn(μcosα + sinα)
Option B:	Wn(μcosα – sinα)
Option C:	Wn(cosα – μsinα)
Option D:	Wn(cosα + μsinα)
Q12.	In an automobile, if the vehicle makes a turn, the gyroscopic torque
Option A:	Increases the force on outer wheels
Option B:	Increases the force on inner wheels

Option C:	Increases the force on rear wheels
Option D:	Increases the force on front wheels
Q13.	Height of a Governor is
Option A:	The distance between centre of two balls mass
Option B:	The distance between centre of balls to the point of intersection of upper arms on spindle axis
Option C:	The distance between centre of balls to the point of intersection of lower links on spindle axis
Option D:	The distance between point of intersection of upper arms on spindle to the point of intersection of lower arms on spindle axis
Q14.	Which one of the following is used to convert a rotational motion into a translational motion?
Option A:	Bevel
Option B:	Double Helical
Option C:	Rack and pinion
Option D:	Worm and worm wheel
Q15.	The difference between which two factors denotes the correction couple?
Option A:	Difference between force required to accelerate non dynamically equivalent system and dynamically equivalent system
Option B:	Difference between torque required to accelerate non dynamically equivalent system and dynamically equivalent system
Option C:	Difference between torque required to decelerate dynamically equivalent system and non dynamically equivalent system
Option D:	Difference between force required to decelerate non dynamically equivalent system and dynamically equivalent system
Q16.	In the expression for angle of heel Θ for 2-wheeler, the Sin Θ component is applied for which couple?
Option A:	Gyroscopic couple
Option B:	Centrifugal couple
Option C:	Balancing couple
Option D:	Centripetal couple
Q17.	In a conical clutch, considering uniform wear, if r_1 & r_2 is the outer and inner radius of friction surfaces respectively, α is the semi cone angle then total frictional torque acting on the clutch is given by, T = nμWR. What is R equal to?
Option A:	$\{2(r_1^3 + r_2^3) / 3(r_1^2 + r_2^2)\}$ x cosec α
Option B:	$\{2(r_1^3 - r_2^3) / 3(r_1^2 - r_2^2)\}$ x cosec α
Option C:	$\{(r_1 - r_2)/2\}$ x cosec α
Option D:	$\{(r_1 + r_2)/2\}$ x cosec α

Q18.	When the relation between the controlling force (F_c) and radius of rotation (r) for a spring controlled governor is F_c = a.r - b, (where a and b are constants) then the governor will be
Option A:	Stable
Option B:	Unstable
Option C:	Isochronous
Option D:	Highly sensitive
Q19.	In which of the following dynamometers does the entire energy or power produced by the engine is absorbed by the friction resistances of the brake?
Option A:	Prony brake dynamometer
Option B:	Torsional dynamometer
Option C:	Epicyclic train dynamometer
Option D:	Belt transmission dynamometer
Q20.	For isochronous, spring controlled governor, the controlling force with increase in radius of rotation
Option A:	Increases
Option B:	Decreases
Option C:	remains constant
Option D:	may increase or decrease depending on size of governor
Q21.	A fixed gear having 200 teeth is in mesh with another gear having 50 teeth. The two gears are connected by an arm. The number of turns made by the smaller gear for one revolution of arm about the centre of bigger gear is
Option A:	1
Option B:	2
Option C:	4
Option D:	3
Q22.	A multi-disc clutch has 3 discs on the driving shaft and 2 on the driven shaft. The outer radius is 120 mm and inside radius 60 mm. Considering uniform wear and μ = 0.3, find the value of axial force, W for transmitting 25 kW at 1500r.p.m.
Option A:	1473.65 N
Option B:	999 N
Option C:	1240.23 N
Option D:	2019.32 N
Q23.	A circular solid disc of uniform thickness 20 mm, radius 200 mm and mass 20 kg, is used as a flywheel. If it rotates at 600 rpm, the kinetic energy of the flywheel, in Joules is
Option A:	395

Option B:	790
Option C:	1580
Option D:	3160
Q24.	Two governors A and B are operating for the same speed range. Governor A has more sleeve displacement for a fractional change in speed then which of the following is correct
Option A:	Governor A is more sensitive than Governor B
Option B:	Governor A is less sensitive than Governor B
Option C:	Governor A is more stable than governor B
Option D:	Governor A and governor B are equally sensitive
Q25.	A rear engine automobile is travelling along a track of 40meters mean radius at 72 kmph speed. Each of the four road wheels has a moment of inertia of 2 kg-m^2 and an effective radius of 0.2 m. The rotating parts of the engine have a moment of inertia of 1.5 kg-m^2. The engine axis is parallel to the rear axle and the crankshaft rotates in the same sense as the road wheels. The ratio of engine speed to back axle speed is 4 : 1. Find the gyroscopic couple acting on the vehicle.
Option A:	2100 N-m
Option B:	700 N-m
Option C:	1400 N-m
Option D:	350 N-m

University of Mumbai

Examination 2020 under cluster 2 (RGIT)

Program: Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code and Course Name: ETC504, RF Modeling and Antennas

Time: 1 hour Max. Marks: 50

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Name of the Question Bank Generator: Anjali Chaudhari

College Name: St. Francis Institute of Technology

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

Q1.	A uniform linear array is required to produce an endfire beam when it is operated at 12GHz. It contains 50 radiations and are spaced 0.5λ. What will be the length of array
Option A:	35.5 λ
Option B:	25.5 λ
Option C:	20.5 λ
Option D:	10.5λ
Q2.	If an observation point is closely located to the source, then the field is termed as
Option A:	Induced
Option B:	Radiated
Option C:	Reflected
Option D:	Far-field
Q3.	The radiation resistance of a circular loop of a turn is 0.01 Ω. The radiation resistance of five turns of such a loop will be :
Option A:	0.002 Ω
Option B:	0.01 Ω
Option C:	0.05 Ω
Option D:	0.25 Ω
Q4.	The purpose of the transmission line equation is to
Option A:	Find primary parameters
Option B:	Find secondary parameters

Option C:	Find reflection coefficient
Option D:	Impedance matching
Q5.	When a transmission line has a load impedance same as that of the characteristic impedance, the line is said to be
Option A:	Parallel
Option B:	Perpendicular
Option C:	Polarized
Option D:	Matched
Q6.	_____ is basic building block for any practical antenna
Option A:	Current element
Option B:	Dipole
Option C:	Monopole
Option D:	Loop
Q7.	Mobile telephony uses frequencies in _____ range.
Option A:	UHF
Option B:	MF
Option C:	HF
Option D:	EHF
Q8.	Circular polarization is formed in :
Option A:	Helical antenna
Option B:	Yagi-Uda antenna
Option C:	Parabolic antenna
Option D:	Dipole antenna
Q9.	The electrical length in a transmission line refers to the
Option A:	Product of attenuation constant and length
Option B:	Ratio of attenuation constant and length
Option C:	Product of phase constant and length
Option D:	Ratio of phase constant and length
Q10.	The input impedance of a half wave transmission line with a load impedance of 12.5 ohm is
Option A:	25 Ω
Option B:	50 Ω
Option C:	6.25 Ω
Option D:	12.5 Ω

Q11.	In a end- fire array the radiation is along ----------
Option A:	Normal- direction
Option B:	XY plane
Option C:	the axis
Option D:	Not in a particular direction
Q12.	From the radiation point of view, small loops are _____ radiators.
Option A:	Poor
Option B:	Good
Option C:	Better
Option D:	Excellent
Q13.	Richard's Transformation and Kuroda's Identities focus on uses of
Option A:	$\lambda/2$
Option B:	$\lambda/4$
Option C:	$\lambda/8$
Option D:	λ
Q14.	To have only one end-fire maximum of radiation pattern and to avoid any grating lobes, the maximum spacing (dmax) between the elements should be
Option A:	dmax $< \lambda/2$.
Option B:	dmax $< \lambda$.
Option C:	dmax $> \lambda/2$.
Option D:	dmax $> 2\lambda$.
Q15.	The impedance of the folded dipole antenna is :
Option A:	50Ω
Option B:	100Ω
Option C:	300Ω
Option D:	20Ω
Q16.	Which one of the following statement with respect to antenna is incorrect?
Option A:	Antenna is a transitional structure between free space and transmission line
Option B:	Antenna is a transducer
Option C:	Antenna is only active device
Option D:	Antenna converts guided impedance to free space impedance

Q17.	Which antennas are renowned as patch antennas especially adopted for space craft applications?
Option A:	Aperture
Option B:	Microstrip
Option C:	Array
Option D:	Lens
Q18.	Alternating current element is given by
Option A:	Idl
Option B:	I dl cosωt
Option C:	I dl sinωt
Option D:	I
Q19.	A uniform linear array is required to produce an endfire beam when it is operated at 12GHz. It contains 50 radiations and are spaced 0.5λ. What will be the progressive phase shift
Option A:	- π
Option B:	+π
Option C:	-2π
Option D:	+2π
Q20.	What is the nature of radiation pattern of basic Yagi -Uda antenna in the E-Plane pattern?
Option A:	Eight shape
Option B:	Spherical
Option C:	Elliptical
Option D:	Hyperbolic
Q21.	Which conversion mechanism is performed by parabolic reflector antenna?
Option A:	Plane to spherical wave
Option B:	Spherical to plane wave
Option C:	Elliptical polaraziation to Circular polarization
Option D:	Circular polarization to Elliptical polaraziation
Q22.	Parabolic antenna is _____ antenna.
Option A:	Omnidirectional
Option B:	Directional
Option C:	Bi-directional
Option D:	Isotropic

Q23.	_____ antenna is used to generate circular polarization.
Option A:	Folded dipole antenna
Option B:	Yagi uda antenna
Option C:	Helical antenna
Option D:	Log periodic antenna
Q24.	As frequency of the source of Log-periodic antenna increases, active radiation region
Option A:	Move towards apex or feed point
Option B:	Move towards large elements
Option C:	Distribute all over the elements
Option D:	Does not move
Q25.	Calculate the directivity of a linear broad side uniform array of 5 isotropic elements with a separation of quarter wavelength between the element.
Option A:	D = 2
Option B:	D = 4
Option C:	D = 6
Option D:	D = 8

University of Mumbai
Examination 2020 under cluster 2 (RGIT)

Program: BE Information Technology Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: TEITC504 and Course Name: Advanced Database Management Systems

Time: 1 hour Max. Marks: 50

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

Q1.	Triggers _____ enabled or disabled
Option A:	Can be
Option B:	Cannot be
Option C:	Ought to be
Option D:	Always
Q2.	The type of organization in which the records are inserted at the end of stored file is classified as_____
Option A:	pile file
Option B:	linear search file
Option C:	relative file
Option D:	external file
Q3.	A data warehouse is which of the following?
Option A:	Can be updated by end users
Option B:	Contains numerous naming conventions and formats
Option C:	Organized around important subject areas.
Option D:	Contains only current data.
Q4.	Fact tables are _____
Option A:	Completely normalized
Option B:	Partially denoralized
Option C:	Completely denoralized
Option D:	Partially normalized
Q5.	Using ODL, you cannot define of the following.
Option A:	Attribute
Option B:	Structure
Option C:	Operation
Option D:	Entity
Q6.	In Database Security DAC stands for_____

Option A:	Discretionary Access Control
Option B:	Data access control
Option C:	Digital Access Control
Option D:	Date Access Control
Q7.	Which of the following is not a kind of data warehouse application?
Option A:	Information processing
Option B:	Analytical processing
Option C:	Data Mining
Option D:	Transaction processing
Q8.	Which injection attack is mostly commonly used to access databases and the networks they reside on?
Option A:	Email injection
Option B:	SQL injection
Option C:	OS injection
Option D:	LDAP injection
Q9.	Which of the following is not a component of a data warehouse?
Option A:	Meta Data
Option B:	Data Marts
Option C:	Component Key
Option D:	Source of Data
Q10.	Ranking of queries is done by which of the following?
Option A:	Group by
Option B:	Order by
Option C:	Having
Option D:	Both Group by and Order by
Q11.	What do data warehouses support?
Option A:	OLAP
Option B:	OLTP
Option C:	OLAP and OLTP
Option D:	Operational databases
Q12.	SQL Authorization mechanism doesn't grants privileges on_____
Option A:	Specified attributes
Option B:	Specified table
Option C:	Entire relation
Option D:	Specified tuple
Q13.	DOLAP stands fo_____
Option A:	Device OLAP

Option B:	Desktop OLAP
Option C:	Data OLAP
Option D:	Database OLAP
Q14.	_____ is not a feature of Datawarehouse
Option A:	Large volume with multiple data types
Option B:	Data modeling and analysis
Option C:	Multidimensional data
Option D:	Small (in GB)
Q15.	The Object Query Language is which of the following?
Option A:	Similar to SQL and uses a select-from-where structure
Option B:	Similar to SQL and uses a select-where structure
Option C:	Similar to SQL and uses a from-where structure
Option D:	Not similar to SQL
Q16.	What is the other name for OLAP cube?
Option A:	Multidimensional Cube
Option B:	2D Cube
Option C:	Cube
Option D:	3D Cube
Q17.	Serializable schedule is a_____
Option A:	serial schedule
Option B:	concurrent schedule
Option C:	concurrent schedule which is equivalent to serial schedule
Option D:	inconsistent schedule
Q18.	Which is not a correctness rule in DDBMS?
Option A:	Completeness
Option B:	Reconstruction
Option C:	Disjointness
Option D:	Isolation
Q19.	Data transformation includes which one of the following?
Option A:	A process to change data from a detailed level to a summary level
Option B:	A process to change data from a summary level to a detailed level
Option C:	Joining data from one source into various sources of data
Option D:	Separating data from one source into various sources of data
Q20.	Which of the following is not a transaction state?
Option A:	Active
Option B:	Partially committed
Option C:	Failed
Option D:	Compensated

Q21.	Which one is not a data source used for ETL?
Option A:	ERP
Option B:	Operational Systems
Option C:	CRM
Option D:	SJT
Q22.	In multilevel indexes, the primary index created for its first level is classified as_____
Option A:	zero level of multilevel index
Option B:	third level of multilevel index
Option C:	second level of multilevel index
Option D:	first level of multilevel index
Q23.	Which is not an objective of Distributed Query Processing?
Option A:	To retrieve query efficiently from the database which is partitioned at various sites
Option B:	To maintain the transparency about the distribution of data across multiple sites
Option C:	Query optimization techniques are not considered
Option D:	To transfer high level query (query at global relations) to low level query (query at each partition on various sites)
Q24.	Which of the following systems is responsible for ensuring isolation?
Option A:	Recovery system
Option B:	Atomic system
Option C:	Concurrency control system
Option D:	Compiler system
Q25.	An extent is which of the following
Option A:	A keyword that indicates that the subclass inherits from a superclass
Option B:	A keyword that indicates that the superclass inherits from a subclass
Option C:	The set of all instances of a class within a database
Option D:	Only one instance of a class within a database

University of Mumbai
Examination 2020 under cluster 2 (RGIT)

Program: BE Instrumentation Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: ISC504 and Course Name: Signal Conditioning Circuit Design

Time: 1hour Max. Marks: 50

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

Q1.	In the sample and hold circuit, the period during which the voltage across capacitor is equal to input voltage is known as,
Option A:	Charging period
Option B:	Hold period
Option C:	Delay period
Option D:	Sample period
Q2.	A current balance bridge is used for potential measurement. The fixed resistors are R_1=R_2=5 KΩ, R_3=1K Ω, R_4=990 Ω, R_5=10 Ω with a 10-V supply. Find the current necessary to null the bridge if the potential is 12 mV.
Option A:	1.2mA
Option B:	12mA
Option C:	1.2A
Option D:	2A
Q3.	The locking range of PLL is always:
Option A:	Same as its capture range
Option B:	Greater than capture range
Option C:	Smaller than capture range
Option D:	Half of the tracking range
Q4.	In analog signal conditioning, the loading of one circuit by another causes -
Option A:	unwanted signals to the output
Option B:	Oscillations at the output
Option C:	Uncertainty in the amplitude of a voltage as it is passed through the measurement process.
Option D:	Oscillations at the input
Q5.	A signal conditioning circuit for a strain gauge type of pressure sensor transducer would use a instrumentation amplifier with the programmable gain for
Option A:	Signal amplification
Option B:	Signal linearization
Option C:	Noise filtering
Option D:	Sensor excitation

Q6.	In photovoltaic detector the value of resistance and short circuit current are 1 KΩ and current is 5 µA. The output voltage is-
Option A:	5 v
Option B:	5 mA
Option C:	0.5 V
Option D:	0.05 V
Q7.	Benefit of using voltage follower circuit with thermistor temperature sensor is
Option A:	It provides infinite gain
Option B:	It provides impedance matching
Option C:	It amplifies voltage
Option D:	It balances ground effect on either side of input and output
Q8.	The divider of has R_1=10k Ω and Vs=10V. Suppose is a sensor whose resistance varies from 4.00 kΩ to 12.0 kΩ has some dynamic variable varies over a range. Find the minimum of V_D.
Option A:	1.43V
Option B:	13.4V
Option C:	1.043V
Option D:	14.3V
Q9.	In piezoelectric transducer, electrical output is proportional to-
Option A:	Applied resistance
Option B:	Applied temperature
Option C:	Applied voltage
Option D:	Applied force
Q10.	A 555 timer in monostable application mode can be used for
Option A:	Pulse position modulation
Option B:	Frequency shift keying
Option C:	Speed control and measurement
Option D:	Digital phase detector
Q11.	An unbalanced Wheatstone Bridge has R1, R4 and R2, R3 in opposite arms (legs). DC supply connected at intersection of R1, R3 and R2, R4. Output voltage measured at intersection of R1, R2 and R3, R4. Determine output voltage, if R1= 80 Ω, R2=120 Ω, R3=480 Ω, R4=160 Ω and DC supply of 100 V.
Option A:	35 V
Option B:	100 V
Option C:	70 V
Option D:	0 V
Q12.	The change in resistance of a metal wire owing to strain is due to S1: Change in dimension of wire expressed by factor (1-2µ) S2: Change in resistance?
Option A:	S1 is false & S2 is true
Option B:	S2 is true & S1 is false
Option C:	Both S1 & S2 are true

Option D:	Both S1 & S2 are false
Q13.	A current to voltage converter produces,
Option A:	proportional output voltage for a variable input current
Option B:	proportional output current for a variable input voltage
Option C:	variable output voltage for a constant input current
Option D:	constant output voltage for a variable input current
Q14.	Select the temperature sensor that you would select for high temperature measurement circuit (above 1000ºC).
Option A:	RTD
Option B:	Thermistor
Option C:	Thermocouple
Option D:	Filled system thermometer
Q15.	Most light sensitive transducer for conversion of light into electrical power is the
Option A:	Photodiode
Option B:	Solar cell
Option C:	Photoconductive cell
Option D:	Photovoltaic cell
Q16.	The smallest resistor in a 12 bit weighted resistor DAC is 2.5kΩ, what will be the largest resistor value?
Option A:	40.96MΩ
Option B:	10.24MΩ
Option C:	61.44 MΩ
Option D:	18.43MΩ
Q17.	Which factor makes the differentiator circuit unstable?
Option A:	Output impedance
Option B:	Input voltage
Option C:	Gain
Option D:	Noise
Q18.	Which of the following are adjustable voltage regulator?
Option A:	78XX series
Option B:	79XX series
Option C:	IC 555
Option D:	LM317
Q19.	A certain inverting amplifier has a closed-loop voltage gain of 25. The Op-amp has an open-loop voltage gain of 100,000. If an OP-amp with an open-loop voltage gain of 200,000 is substituted in the arrangement, the closed-loop gain:
Option A:	Doubles
Option B:	Remains at 25
Option C:	Drops to 12.5

Option D:	Increases slightly
Q20.	Drawback of counter type A/D converter
Option A:	Counter clears automatically
Option B:	More complex
Option C:	High conversion time
Option D:	Low speed
Q21.	Given that the breakdown voltage is 5V, R1=10kΩ, R2=100kΩ, R3=200kΩ, R4=10Ω. The source voltage V_S=25V.
Option A:	10%
Option B:	20.22%
Option C:	14.28%
Option D:	15.66%
Q22.	Which bridge is utilized in signal conditioning circuits for balancing purpose?
Option A:	Maxwell Bridge
Option B:	Wheatstone Bridge
Option C:	Wein Bridge
Option D:	Kelvin Bridge
Q23.	Find output voltage equation for 3 bit DAC converter with R and 2R resistor?
Option A:	V_o= -R_F [(b_2/8R) +(b_1/4R) +(b_0/2R)]
Option B:	V_o= -R_F [(b_2/R) +(b_1/2R) +(b_0/4R)]
Option C:	V_o= -R_F [(b_2/2R)+(b_1/4R) +(b_0/8R)]
Option D:	V_o= -R_F [(b_0/4R)+(b_1/2R) +(b_2/R)]
Q24.	What is the range of the voltage level of the LM317 adjusted voltage regulator
Option A:	0 V to 5 V
Option B:	1.2 V to 37 V
Option C:	–5 V to –24 V
Option D:	5 V to 24 V
Q25.	Calculate the cut-off frequencies of a bandpass filter with R1 = R2 = 5 kΩ and C1 = C2 = 0.1 µF
Option A:	F_{OL} = 636.6 Hz, F_{OH} = 636.6 Hz
Option B:	F_{OL} = 636.6 Hz, F_{OH} = 318.3 Hz
Option C:	F_{OL} = 318.3 Hz, F_{OH} = 636.6 Hz
Option D:	F_{OL} = 318.3 Hz, F_{OH} = 318.3 Hz