University of Mumbai

Examination 2020 under cluster 2

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

University of Mumbai

Examination 2020 under cluster 2

Program: BE Computer Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: CPC501 and Course Name: Microprocessor

Time: 1 hour Max. Marks: 50

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

Q1.	Microprocessor 8086 operates at a frequency of_____
Option A:	3 MHz
Option B:	5 MHz
Option C:	8 MHz
Option D:	10 MHz
Q2.	Microprocessor 8086 has total _____ number of address lines for memory access
Option A:	8
Option B:	16
Option C:	20
Option D:	32
Q3.	In 8086 microprocessor which instructions is an example of direct addressing mode instruction.
Option A:	MOV AX, 1000H
Option B:	MOV AX, [1000]
Option C:	MOV AX, BX
Option D:	MOV AX, [BX]
Q4.	If AL= 22H & BL = 44H, what is value of register after execution of instruction MOV AL, BL.
Option A:	AL = 22H & BL = 22H
Option B:	AL = 22H & BL = 44H
Option C:	AL = 44H & BL = 22H
Option D:	AL = 44H & BL = 44H
Q5.	Total number of registers in microprocessor 8086 are
Option A:	16
Option B:	29
Option C:	14
Option D:	20
Q6.	In 8259 PIC, the register that stores all the interrupt requests in the register_____

Option A:	Interrupt Request Register
Option B:	In-Service Register
Option C:	Priority resolver
Option D:	Interrupt Mask Register
Q7.	8086 does not have an on-chip clock generator thus external clock generator _____is used provide the clock signals
Option A:	8286
Option B:	8284
Option C:	8288
Option D:	8282
Q8.	In 8086, The DMA Controller issues the___ signal to 8086 processor to request for the system bus.
Option A:	INTR
Option B:	TEST
Option C:	HLDA
Option D:	HOLD
Q9.	How many Counters are there in Programmable timer IC 8253?
Option A:	4
Option B:	3
Option C:	8
Option D:	6
Q10.	What is maximum size of a memory segment in 8086?
Option A:	64KB
Option B:	64bytes
Option C:	64MB
Option D:	64GB
Q11.	Instruction Queue of 8086 is _____ byte long.
Option A:	4
Option B:	6
Option C:	8
Option D:	5
Q12.	In Pentium, How many floating point pipeline stages are there?
Option A:	3
Option B:	5
Option C:	7
Option D:	8
Q13.	When the AF flag of 8086 is set 1
Option A:	After addition of 8bit number, if carry is generated

Option B:	If result is out of range
Option C:	After addition of lower 4 bits , if carry is generated
Option D:	If result of operation is zero
Q14.	SPARC has registers file of more the registers
Option A:	32
Option B:	64
Option C:	16
Option D:	100
Q15.	What are the data lines connected to Bank 2 of 80386 DX?
Option A:	D23-D16
Option B:	D31-D0
Option C:	D15-D8
Option D:	D15 -D0
Q16.	In 80386DX processor which CR (Control Register) store page fault linear address.
Option A:	CR0
Option B:	CR2
Option C:	CR1
Option D:	CR3
Q17.	In 8086 microprocessor, INTR interrupt may be masked using the which flag
Option A:	Direction Flag
Option B:	Overflow Flag
Option C:	Interrupt Flag
Option D:	Trap Flag
Q18.	What will be content of register BL after executing following set of instructions MOV BL, 34H AND BL,F0H
Option A:	BL = 34H
Option B:	BL = F0H
Option C:	BL = 30H
Option D:	BL = 04H
Q19.	Number of 8-bits ports available in 8255 Programmable peripheral interfaces
Option A:	3
Option B:	4
Option C:	2
Option D:	5
Q20.	In 80386, _____ is the mode of the processor immediately after RESET
Option A:	Virtual Mode

Option B:	Protected Mode
Option C:	Real-Mode
Option D:	SMM mode
Q21.	Among eight debug registers in 80386, DR0-DR7, the registers that are reserved by Intel are
Option A:	DR0, DR1, DR2
Option B:	DR4, DR5
Option C:	DR1, DR4
Option D:	DR5, DR6, DR7
Q22.	In 8255 PPI, BSR mode is where individual bits of _____can be set/reset.
Option A:	Port B
Option B:	Port C
Option C:	Port A
Option D:	Port A & Port B
Q23.	The virtual address space available in 80386 is_____
Option A:	32GB
Option B:	64MB
Option C:	32TB
Option D:	64TB
Q24.	Data cache in Pentium processor is a _____ organized as 2-way set associative with _____lines
Option A:	8KB, 16 bytes
Option B:	8KB, 32 bytes
Option C:	4KB,32 bytes
Option D:	4KB, 16 bytes
Q25.	In Pentium processor, using branch prediction logic if the prediction is wrong for branching instructions in U pipeline there is penalty of _____incurred while _____penalty in case predicted wrong for V pipeline
Option A:	3 cycle, 4 cycle
Option B:	4 cycle, 3cycle
Option C:	3cycle, 3cycle
Option D:	4cycle, 6cycle

University of Mumbai

Examination 2020 under cluster 2

Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: MEC501 and Course Name: Internal Combustion Engines

Time: 1 hour Max. Marks: 50

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

Q1.	The ratio of the work obtained at the crankshaft in a given time to the energy supplied during the same time is called
Option A:	Mechanical efficiency
Option B:	Overall efficiency
Option C:	Indicated thermal efficiency
Option D:	Volumetric efficiency
Q2.	For CI Engine, the overall air-fuel ratio may vary from about _____ at no load to _____ at full load.
Option A:	20:1, 100:1
Option B:	100:1, 20:1
Option C:	1:20, 1:100
Option D:	1:100, 1:20
Q3.	The radiator cooling tubes are generally made of
Option A:	Rubber
Option B:	Plastic
Option C:	Brass
Option D:	Copper
Q4.	Because of poor distribution of fuel particles, combustion continues during part of the remainder of the expansion stroke. It is also known as
Option A:	Ignition delay period
Option B:	Uncontrolled Combustion
Option C:	Controlled Combustion
Option D:	Afterburning
Q5.	Compression ratio in diesel engines is of the order of
Option A:	5–7
Option B:	7–10
Option C:	10–12
Option D:	14–20
Q6.	Which of the following is the port fuel-injection system?

Option A:	D-MPFI
Option B:	L-MPFI
Option C:	Gasoline Direct Injection
Option D:	Throttle Body Injection
Q7.	Every solid injection:
Option A:	Needs a pressurizing unit only
Option B:	Needs an atomizing unit only
Option C:	Needs a pressurizing unit and an atomizing unit
Option D:	Does not require a pressurizing & an atomizing unit at all
Q8.	Which of the following of oils is multi-grade oil?
Option A:	SAE 10W 30
Option B:	SAE 25W
Option C:	SAE 10
Option D:	SAE 20W
Q9.	In common rail system, the metering element opening period changes with the speed, thus as the speed is _____, it remains open for _____ period, making this system self-governing.
Option A:	Reduced, longer
Option B:	Reduced, shorter
Option C:	Increased, longer
Option D:	Changed, unchanged
Q10.	The voltage required to produce a spark across the gap, between the sparking point is
Option A:	2000 to 4000 Volts
Option B:	4000 to 6000 Volts
Option C:	6000 to 10,000 Volts
Option D:	10,000 to 12,000 Volts
Q11.	Cooling after compression is necessary to
Option A:	Increase the density of the air
Option B:	Increase specific volume of air
Option C:	Increase pressure of the air
Option D:	Reduce exhaust temperature
Q12.	Gudgeon pin forms the link between
Option A:	piston and big end of connecting rod
Option B:	piston and small end of connecting rod
Option C:	connecting rod and crank
Option D:	big end and small end
Q13.	Venturi in the carburettor results in

Option A:	decrease of air velocity
Option B:	increase of air velocity
Option C:	decrease of fuel flow
Option D:	increase of manifold vacuum
Q14.	During _____ any further pressure rise can be controlled by purely mechanical means, i.e. by the injection rate.
Option A:	Ignition delay period
Option B:	Uncontrolled Combustion
Option C:	Controlled Combustion
Option D:	Afterburning
Q15.	The brake power of a diesel engine, keeping other parameters constant, can be increased by
Option A:	decreasing the density of intake air
Option B:	increasing the temperature of intake air
Option C:	increasing the pressure of intake air
Option D:	decreasing the pressure of intake air
Q16.	Installation of supercharger on a four-cycle diesel engine can result in the following percentage increase in power
Option A:	Up to 25%
Option B:	Up to 50%
Option C:	Up to 80%
Option D:	Up to 100%
Q17.	Which of these in NOT a requirement of an injector nozzle
Option A:	To inject fuel at a sufficiently high pressure
Option B:	The penetration should not be high so as to impinge on cylinder walls
Option C:	Maintain the Air-Fuel ratio
Option D:	The fuel supply and cut off should be rapid
Q18.	Which of the following statement is correct regarding S.I engines
Option A:	A fine fuel spray mixed with air is ignited by the heat of compression which is at a high pressure.
Option B:	The fuel supplied to the engine cylinder is mixed with necessary amount of air and the mixture is ignited with the help of the spark plug.
Option C:	The fuel is evaporated after passing through a carburettor and is mixed with air before ignition.
Option D:	The charge is ignited by some hot surface within the engine before the passage of spark.
Q19.	Oil pressure in dry sump lubrication system is around
Option A:	5 bar – 10 bar
Option B:	11 bar – 15 bar
Option C:	3 bar – 8 bar

Option D:	1 bar
Q20.	In a cycle, the spark last roughly for
Option A:	1sec
Option B:	0.1sec
Option C:	0.01sec
Option D:	0.001sec
Q21.	The power output of hydrogen engine is limited by _____
Option A:	detonation and knocking
Option B:	pre-ignition and back flash
Option C:	pre-ignition and detonation
Option D:	detonation and back flash
Q22.	Small amount of gasoline is added to alcohol to
Option A:	reduce the emission
Option B:	to increase the power output
Option C:	to increase the efficiency
Option D:	to improve cold weather starting
Q23.	Stirling and Ericsson cycles are _____.
Option A:	reversible cycles
Option B:	irreversible cycles
Option C:	quasi-static cycles
Option D:	semi-reversible cycles
Q24.	With dissociation peak temperature is obtained
Option A:	at the stoichiometric air-fuel ratio
Option B:	when the mixture is slightly lean
Option C:	when the mixture is slightly rich
Option D:	when mixture is at high temperature
Q25.	Which of the following is not a stage of combustion in S.I engine
Option A:	Ignition Lag
Option B:	Propagation of flame
Option C:	Period of uncontrolled combustion
Option D:	Afterburning

University of Mumbai
Examination 2020 under cluster 2

Program: BE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: ETC501 Course Name: Microcontrollers & Applications

Time: 1 hour Max. Marks: 50

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

Q1.	In 8051 which interrupt has highest priority?
Option A:	IE1
Option B:	TF0
Option C:	IE0
Option D:	TF1
Q2.	What is the function of watchdog timer?
Option A:	The watchdog Timer is an external timer that resets the system if the software fails to operate properly.
Option B:	The watchdog Timer is an internal timer that sets the system if the software fails to operate properly.
Option C:	The watchdog Timer is an internal timer that resets the system if the software fails to operate properly.
Option D:	The watchdog Timer is an external timer that sets the system if the software fails to operate properly.

Q3.	Calculate the jump code for again and here if code starts at 0000H
	MOV R1,#0
	MOV A,#0
	MOV R0,#25H
	AGAIN:ADD A,#0ECH
	JNC HERE
	HERE: INC R1
	DJNZ R0,AGAIN
	MOV R0,A
	END

Option A:	F3,02
Option B:	F9,01
Option C:	E9,01
Option D:	E3,02
Q4.	Find the number of times the following loop will be executed MOV R6,#200

	BACK:MOV R5,#100 HERE:DJNZ R5, HERE DJNZ R6,BACK END
Option A:	100
Option B:	2000
Option C:	200
Option D:	20000
Q5.	Which of the following comes under the indexed addressing mode?
Option A:	MOVX A, @DPTR
Option B:	MOVC @A+DPTR,A
Option C:	MOV A,R0
Option D:	MOV @R0,A
Q6.	The instruction to move the data from external memory to accumulator is _____
Option A:	MOV A, R0
Option B:	MOV B, R0
Option C:	MOVX A, @DPTR
Option D:	MOVX A, R2
Q7.	The instruction MOV A,@R0 performed operation
Option A:	Copy the data from R0 to A register
Option B:	Copy the data from A register to R0 register
Option C:	Copy the data from internal data ram address pointed by R0 to A register
Option D:	Copy the data from internal data ram address pointed by A to R0 register
Q8.	The instruction MOV P0, #80H will set _____
Option A:	P0.0 = 1
Option B:	P0.3 = 1
Option C:	P0.5 = 1
Option D:	P0.7 = 1
Q9.	DA (decimal adjust) instruction adjust the number to BCD value ____
Option A:	After subtraction
Option B:	Before subtraction
Option C:	After addition
Option D:	Before addition
Q10.	In a common anode 7 segment LED display,
Option A:	All anodes of the seven LED's are connected to Port pins
Option B:	All anodes of the seven LED's are commonly connected to Vcc
Option C:	All cathodes of the seven LED's are commonly connected to Gnd
Option D:	All cathodes of the seven LED's are commonly connected to Vcc

Q11.	For selecting the data register in an LCD program, RS pin should be given
Option A:	1
Option B:	0
Option C:	F
Option D:	High to low pulse
Q12.	The minimum step angle of stepper motor is always a function of
Option A:	No. of teeth on the rotor
Option B:	Load connected
Option C:	Sequence applied
Option D:	Voltage applied
Q13.	Solid relays are advantageous over electromagnetic relays because
Option A:	they need zero voltage circuit
Option B:	they need less current to be energised
Option C:	they need less voltage to be energised
Option D:	They are less costly
Q14.	What are the profiles for ARM architecture?
Option A:	A,R
Option B:	A,M
Option C:	A,R,M
Option D:	R,M
Q15.	ARM7 uses ___ stage pipeline
Option A:	2
Option B:	5
Option C:	3
Option D:	6
Q16.	In Von Neumann architecture, which among the following handles all the operations of the system that are inside and outside the processor
Option A:	Input unit
Option B:	Output unit
Option C:	Control unit
Option D:	Memory unit
Q17.	In the ARM, PC is implemented using _____
Option A:	Caches
Option B:	Heaps
Option C:	General purpose register
Option D:	Stack

Q18.	The instructions which are used to load or store multiple operands are called as _____
Option A:	Banked instructions
Option B:	Lump transfer instructions
Option C:	Block transfer instructions
Option D:	DMA instructions
Q19.	MRC, MCR are the _____
Option A:	Co-processor register transfer instructions
Option B:	Thumb instructions
Option C:	Shift instructions
Option D:	Logical Instructions
Q20.	Instruction used to multiply R5 contents by R4 and to store the result into R6 is_____.
Option A:	MUL R6, R5, LSL #2
Option B:	MUL R6, R5, R4
Option C:	MUL R6, R5, LSR #2
Option D:	MUL R5, R6, LSR #2
Q21.	If R1 = 0b1111 , R2 = 0b0101, After BIC R0, R1, R2 is executed
Option A:	R0 = 0b1010
Option B:	R0 = 0b1111
Option C:	R0 = 0b0101
Option D:	R0 = 0b1100
Q22.	The Timer register in LPC 2148 gives it a range of counting from _____
Option A:	0 to 0XFFFFFFFF
Option B:	0 to 0X11111111
Option C:	0 to 0XFFFF
Option D:	0 to 0X1111
Q23.	The first recognized modern embedded system is
Option A:	Apple computer
Option B:	Apollo Guidance Computer
Option C:	Calculator
Option D:	Radio navigation system
Q24.	Which of the following option is correct to send zeros to upper 16 GPIO pins ?
Option A:	IOCLR=0X0000FFFF
Option B:	IOCLR=0XFFFF0000
Option C:	IOPIN=0XFFFF0000
Option D:	IOPIN=0X0000FFFF

Q25.	Which of the following produces an assembler file in the compilation process?
Option A:	pre-processor
Option B:	assembler
Option C:	Compiler
Option D:	post-processing

University of Mumbai
Examination 2020 under cluster 2

Program: BE Information Technology

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: TEITC501 and Course Name: Computer Graphics and Virtual Reality

Time: 1 hour Max. Marks: 50

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

Q1.	A pixel may be defined as _____.
Option A:	Smallest size object
Option B:	Larger size object
Option C:	Medium size object
Option D:	Largest size object
Q2.	Two consecutive scaling transformation s1 and s2 are _____, while two consecutive rotation transformation t1 and t2 are _____.
Option A:	Additive, multiplicative
Option B:	Additive, subtractive
Option C:	Multiplicative, additive
Option D:	Subtractive, additive
Q3.	Which of the following is integrating the objects physical characteristics for bringing realism to the virtual world?
Option A:	Geometric modeling
Option B:	Physical modeling
Option C:	Kinematic modeling
Option D:	Potential modeling

Q4.	Which flag constant of the GeometryArray constructor specifies that the vertex array contains colors with transparency?
Option A:	TEXTURE_COORDINATE_3
Option B:	COLOR_3
Option C:	COLOR_4
Option D:	COLOR_1
Q5.	Colors that are contained by the color guns of computer screen are _____.
Option A:	Red, Green and Blue
Option B:	Yellow, Red and Green
Option C:	Orange, Red and Green
Option D:	Black, Blue and Green
Q6.	The transformation in which an object is moved from one position to other in circular path along a specified pivot point is called
Option A:	Translation
Option B:	Scaling
Option C:	Rotation
Option D:	Reflection
Q7.	Sutherland Hodgeman polygon clipping algorithm uses _____ number of clippers
Option A:	6
Option B:	7
Option C:	4
Option D:	9
Q8.	The Three -dimensional transformation matrix for translation with homogenous coordinate is given as

Option A:	$\begin{bmatrix} tx & 0 & 0 & 1 \\ ty & 0 & 1 & 0 \\ tz & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 \end{bmatrix}$
Option B:	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ tx & 1 & 0 & 0 \\ ty & 0 & 1 & 0 \\ tz & 0 & 0 & 1 \end{bmatrix}$
Option C:	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ tx & ty & tz & 1 \end{bmatrix}$
Option D:	$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \\ tx & ty & ty & 1 \end{bmatrix}$
Q9.	CAVE stands for
Option A:	Cart Automatic Virtual Environment
Option B:	Care Automatic Virtual Environment
Option C:	Cave Automatic Virtual Environment
Option D:	Calm Automatic Virtual Environment
Q10.	Fractals deal with curves that are?
Option A:	irregularly irregular
Option B:	regularly irregular
Option C:	irregularly regular
Option D:	regularly regular
Q11.	Positive values for the rotation angle Θ defines
Option A:	Counterclockwise rotations about the end points
Option B:	Counterclockwise translation about the pivot point
Option C:	Counterclockwise rotations about the pivot point

Option D:	Negative direction
Q12.	In Sutherland Hodgeman polygon clipping algorithm rules for a given edge of a subject polygon if both input vertices are inside the clipping polygon , then output list will contain _____.
Option A:	Second vertex of the given edge of the subject polygon
Option B:	Intersection and the second vertex
Option C:	Only the intersection
Option D:	Nothing will be added to the output list.
Q13.	Which of the following uses cameras to project an image of a user into a computer program and creating a 2D computer character?
Option A:	Immersive
Option B:	Non immersive
Option C:	Video mapping VR
Option D:	Augmented
Q14.	The VR system should support the frame rate of at least ____ frame/s.
Option A:	15
Option B:	10
Option C:	5
Option D:	20 or more
Q15.	What is the first stage in physical modelling that determines whether two or more objects are in contact with each other?
Option A:	Surface deformation
Option B:	Collision detection
Option C:	Surface definition
Option D:	Force Smoothing

Q16.	What kind of modelling maCluster 2 FRCRCEkes use of interactive objects, virtual agents and crowds?
Option A:	Geometric Modeling
Option B:	Physical Modeling
Option C:	Kinematics Modeling
Option D:	Behavior Modeling
Q17.	What are the Shape 3D constructors?
Option A:	Shape3D(Node node) and Shape3D(Node node, Object object)
Option B:	Shape3D(Node node, Object object)
Option C:	Shape3D(), Shape3D(Geometry geometry), Shape3D(Geometry geometry, Appearance appearance))
Option D:	Shape3D(NodeComponent nc, Texture texture)
Q18.	Raster images are more commonly called_____.
Option A:	Pix map
Option B:	Bitmap
Option C:	Vector map
Option D:	Raster map
Q19.	Which modelling specifies the spatial description of virtual objects in the world coordinate system?
Option A:	Geometric Modeling
Option B:	Physical Modeling
Option C:	Kinematics Modeling
Option D:	Behavior Modeling
Q20.	Which is the basic node for defining visible VRML objects?

Option A:	Model
Option B:	Shape
Option C:	Header
Option D:	Object
Q21.	A bitmap is _____bit(s) per pixels.
Option A:	0
Option B:	1
Option C:	2
Option D:	3
Q22.	Identify different type of computer graphics.
Option A:	Monochrome and Color
Option B:	CRT and Flat panel
Option C:	Vector and Raster
Option D:	Monitors and Hardcopy devices
Q23.	A circle, if scaled only in one direction becomes a
Option A:	Hyperbola
Option B:	Ellipse
Option C:	Parabola
Option D:	Circle only
Q24.	In Sutherland Hodgeman polygon clipping algorithm rules for a given edge of a subject polygon If first input vertex is inside, and second is outside the clipping polygon , then output list will contain _____.
Option A:	Second vertex of the given edge of the subject polygon
Option B:	Intersection and the second vertex

Option C:	Only the intersection
Option D:	Nothing will be added to the output list.
Q25.	Which of the following is not TRUE about 6DOF(Degree of Freedom) tracking device?
Option A:	Inertial
Option B:	Ultrasonic
Option C:	Electromagnetic
Option D:	Inductive

University of Mumbai

Examination 2020 under cluster 2

Inter Cluster

Program: BE Instrumentation Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: ISC501 and Course Name: Signals and Systems

Time: 1hour Max. Marks: 50

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

Q1.	Analog signal can be converted into discrete time signals by
Option A:	Sampling
Option B:	Quantization
Option C:	Coding
Option D:	Filtering
Q2.	The sum of two periodic signals is periodic only if the ratio of their respective periods T1/T2 is
Option A:	A rational number
Option B:	An irrational number
Option C:	A complex number
Option D:	A real number
Q3.	The signal is an energy signal if
Option A:	E=0, P=0
Option B:	E=∞, P=finite
Option C:	E=finite, P=0
Option D:	E=finite, P=∞
Q4.	The system whose output depends on future inputs is a
Option A:	Static system
Option B:	Dynamic system
Option C:	Non-causal system
Option D:	Dynamic and non-causal both
Q5.	y[n]=x[2n] is a
Option A:	Time-invariant system
Option B:	Time variant, dynamic system
Option C:	Linear, time variant, dynamic system
Option D:	Linear, time invariant, static system
Q6.	$x(t)=e^{-5t}u(t)$ is a
Option A:	Power signal
Option B:	Energy signal

Option C:	Neither power nor energy signal
Option D:	Both energy and power signal
Q7.	δ (at) =
Option A:	δ (t)
Option B:	$\lvert a \rvert$ δ (t)
Option C:	1/ $\lvert a \rvert$ δ (t)
Option D:	δ^2 (t)
Q8.	$\int_{-\infty}^{\infty} x(\tau)\, \delta(t-\tau) d\tau$ =
Option A:	x (t)
Option B:	x (τ)
Option C:	x (t) δ (t)
Option D:	x (t- τ)
Q9.	If x[n]= [1 1 2 -1] and h[n]= [1 0 1], what would be the sequence y[n] considering linear convolution?
Option A:	y[n] = [-1 2 0 3 1 1]
Option B:	y[n] = [3 1 1 -1 2 0]
Option C:	y[n] = [1 1 3 0 2 -1]
Option D:	y[n] = [-1 -1 3 0 2 1]
Q10.	For the existence of Fourier series, Dirichlet's conditions are
Option A:	Necessary
Option B:	Sufficient
Option C:	Necessary and sufficient
Option D:	Necessary but not sufficient
Q11.	The Exponential Fourier Series coefficient C_{-n} in terms of Trigonometric Fourier series coefficient is
Option A:	$C_{-n} = \frac{1}{2}(a_n + jb_n)$
Option B:	$C_{-n} = \frac{1}{2}(a_n - jb_n)$
Option C:	$C_{-n} = (a_n - jb_n)$
Option D:	$C_{-n} = (a_n + jb_n)$
Q12.	Fourier Series applies to
Option A:	Only periodic signals
Option B:	Only aperiodic signals
Option C:	Both periodic and aperiodic signals
Option D:	Only random signals
Q13.	The Inverse Fourier Transform x(t) of X(ω) is given by ½ π
Option A:	$\int_{-\infty}^{\infty} X(\omega) e^{-i\omega t} d\omega$
Option B:	$\int_{-\infty}^{\infty} X(\omega) e^{i\omega t} d\omega$

Option C:	$\int_{T/2}^{T/2} X(\omega)e^{-i\omega t}d\omega$
Option D:	$\int_{-\infty}^{\infty} F(\omega)d\omega$
Q14.	The Fourier Transform of x(-t) is
Option A:	X(ω)
Option B:	X(-ω)
Option C:	X(1/ω)
Option D:	-X(ω)
Q15.	The area under Fourier Transform, i.e., $\int_{-\infty}^{\infty} X(\omega)d\omega$ =
Option A:	x(0)
Option B:	X(0)
Option C:	2 π x(0)
Option D:	½ π x(0)
Q16.	Which one of the following cannot be the ROC of $\frac{5}{(s+3)(s+4)}$
Option A:	Re(s) > -3
Option B:	Re(s) < -4
Option C:	-4 < Re(s) < -3
Option D:	-3 < Re(s) < -4
Q17.	Inverse Laplace Transform of $[\frac{1}{(s+1)(s+2)}]$ for ROC; -2 < Re(s) < -1 is
Option A:	e^{-t} u(t) – e^{-2t} u(t)
Option B:	-e^{-t} u(-t) – e^{-2t} u(t)
Option C:	e^{-t} u(-t) – e^{-2t} u(-t)
Option D:	e^{-t} u(t) + e^{-2t} u(-t)
Q18.	According to the time-shifting property of Laplace Transform, shifting the signal in time domain corresponds to the
Option A:	Multiplication by e^{-st0} in the time domain
Option B:	Multiplication by e^{-st0} in the frequency domain
Option C:	Multiplication by e^{st0} in the time domain
Option D:	Multiplication by e^{st0} in the frequency domain
Q19.	When is the system said to be causal as well as stable in accordance to pole/zero of ROC specified by system transfer function?
Option A:	Only if all the poles of system transfer function lie in left-half of S-plane
Option B:	Only if all the poles of system transfer function lie in right-half of S-plane
Option C:	Only if all the poles of system transfer function lie at the center of S-plane
Option D:	It can be anywhere

Q20.	The Z transform of a system is H(z) = $\frac{z}{z-0.8}$. If the ROC is $\lvert z \rvert$<0.8, the impulse response of the system is
Option A:	$(0.8)^n$ u (n)
Option B:	-$(0.8)^n$ u (-n-1)
Option C:	-$(0.8)^n$ u (n)
Option D:	$(0.8)^n$ u (-n-1)
Q21.	The ROC of a causal and stable system must include the
Option A:	Origin
Option B:	Infinity
Option C:	A ring
Option D:	Unit circle
Q22.	If X(z) is the z transform of x(n), the initial value theorem states that
Option A:	$\lim_{z \longrightarrow} 1$ (z-1) X(z)
Option B:	$\lim_{z \longrightarrow} 0$ X(z)
Option C:	$\lim_{z \longrightarrow} \infty$ X(z)
Option D:	$\lim_{z \longrightarrow} \infty$ zX(z)
Q23.	What is the z-transform of the signal x(n)= $(0.5)^n$u(n)?
Option A:	$1/1-0.5z^{-1}$; ROC: |z|>0.5
Option B:	$1/1-0.5z^{-1}$; ROC: |z|<0.5
Option C:	$1/1+0.5z^{-1}$; ROC: |z|>0.5
Option D:	$1/1+0.5z^{-1}$; ROC: |z|<0.5
Q24.	The z transform of a signal with X(s)= (1/s) is
Option A:	$\frac{1}{1-z^2}$
Option B:	$\frac{1}{1-z}$
Option C:	$\frac{1}{1+z^{-1}}$
Option D:	$\frac{1}{1+z}$
Q25.	Which statement about ROC is not true?
Option A:	ROC does not contain any pole
Option B:	ROC consists of a circle in z plane centered at origin
Option C:	ROC is a ring or disk in z plane
Option D:	ROC contains both poles and zeros