

University of Mumbai
Examination 2020 under cluster 2 (FRCRCE)

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

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Examination 2020 under cluster 2 (FRCRCE)

Program: BE Computer Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: CSC501 and Course Name: Microprocessor

Time: 1 hour

Max. Marks: 50

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

Q1.	Direction flag is used with _____.
Option A:	String instructions
Option B:	Stack Instructions
Option C:	Arithmetic Instructions
Option D:	Branch Instructions
Q2.	CS along with _____ always points to next instruction to be executed.
Option A:	BP
Option B:	IP
Option C:	SP
Option D:	DI
Q3.	_____ is example of direct addressing mode.
Option A:	MOV AX, CX
Option B:	MOV AX, 1000H
Option C:	MOV AX, [BX]
Option D:	MOV AX, [1000H]
Q4.	DIV BX in this instruction which register give dividend?
Option A:	AX
Option B:	BX
Option C:	AX_BX
Option D:	DX_AX
Q5.	What is length of instruction prefetch queue in 8086 processor.
Option A:	4-Byte
Option B:	6-Byte
Option C:	8-Byte
Option D:	16- Byte
Q6.	Which from the following is Type - 4 interrupt?
Option A:	Divide Error
Option B:	Single Step
Option C:	NMI

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Option D:	Overflow
Q7.	How many Timers/Counters are present in 8253?
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q8.	From the following option which is not a Data transfer mode of DMA 8257.
Option A:	Burst Mode
Option B:	Bi-Directional IO mode
Option C:	Single byte transfer mode
Option D:	Transparent mode
Q9.	Virtual 86 mode is available within _____ operating mode of 80386 processor.
Option A:	Minimum Mode
Option B:	Maximum Mode
Option C:	Real Mode
Option D:	Protected Mode
Q10.	In MESI protocol E stand for?
Option A:	Extra
Option B:	Exclusive
Option C:	Enable
Option D:	Effective
Q11.	The Crystal Frequency Should be equal to _____ times the required clock frequency in 8086.
Option A:	3
Option B:	6
Option C:	4
Option D:	8
Q12.	The call instruction stores the return address for a program
Option A:	on the stack
Option B:	in the memory address register
Option C:	in the program counter
Option D:	does not involve using the return address
Q13.	When DAA instruction adds 6 to its least significant hex digit?
Option A:	Least significant hex digit is greater than 9.
Option B:	Most significant hex digit is greater than 9.
Option C:	Either Least significant hex digit is greater than 9 or auxiliary carry is set.
Option D:	Either Most significant hex digit is greater than 9 or carry is set.

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Q14.	Which additional ICW (Initializations Control Word) is required in cascade mode of PIC 8259.
Option A:	ICW1
Option B:	ICW2
Option C:	ICW3
Option D:	ICW4
Q15.	For connecting 256KB RAM using 8KB X 8 chip, How many chips are required?
Option A:	2
Option B:	16
Option C:	32
Option D:	8
Q16.	In 80386 processor Selector can be stored in Register.
Option A:	DS
Option B:	EAX
Option C:	EIP
Option D:	SI
Q17.	If result of branch prediction goes wrong then how much is cycle penalty occur on V-pipeline.
Option A:	2
Option B:	3
Option C:	4
Option D:	6
Q18.	Which segment contains the actual assembly language instructions to be executed by the microprocessor.
Option A:	Data segment
Option B:	Code segment
Option C:	Stack segment
Option D:	Extra segment
Q19.	If Flag = 4567H, what is result after execution of LAHF.
Option A:	AL = 67H
Option B:	AH = 67H
Option C:	AL = 45H
Option D:	AH = 45H
Q20.	MOV CL, 04H MOV BL, 85H AND BL, F0H ROR BL, CL What is result after execution of above code?

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Option A:	08H
Option B:	05H
Option C:	50H
Option D:	80H
Q21.	For interrupt vector number 50, what will be the physical address for IVT?
Option A:	000CAH
Option B:	000C8H
Option C:	000C9H
Option D:	000CBH
Q22.	For 4KB EPROM chip, what are starting address (SA) and ending address (EA) of Even bank and Odd bank.
Option A:	Even Bank Address SA = 00000H & EA= 00FFFH, Odd Bank Address SA= 00001H & EA= 00FFFH.
Option B:	Even Bank Address SA = FF000H & EA= 00FFEH, Odd Bank Address SA= 00001H & EA= 00FFFH.
Option C:	Even Bank Address SA = FF000H & EA= FFFFEH, Odd Bank Address SA= FF001H & EA= FFFFFH.
Option D:	Even Bank Address SA = FFFFFH & EA= 00FFFH, Odd Bank Address SA= 1FFFFH & EA= 00FFFH.
Q23.	Pentium processor has ____ stage integer pipeline and ____ stage floating point pipeline.
Option A:	6 and 9
Option B:	5 and 10
Option C:	4 and 8
Option D:	5 and 8
Q24.	Pentium code cache architecture has page of _____ bits, line/set of _____ bits and byte of _____ bits.
Option A:	20-7-5
Option B:	10-10-12
Option C:	7-5-20
Option D:	5-7-20
Q25.	Which of the following will terminate a program and return to MS-DOS?
Option A:	(A) mov ax, 4c00h and int 20h
Option B:	(B) mov ax, 4c00h and int 21h
Option C:	(C) mov dx, 4c00h and int 21h
Option D:	(D) mov ax, 9h and int 21h

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Examination 2020 under cluster 2 (FRCRCE)

Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: MEC501 and Course Name: Internal Combustion Engines

Time: 1hour

Max. Marks: 50

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

Q1.	What can be reduced by using exhaust gas recirculation (EGR) effectively?
Option A:	CO
Option B:	NO _x
Option C:	HC
Option D:	CO and HC
Q2.	The amount of flow in EGR, can be as high as _____ of the total intake.
Option A:	20%
Option B:	30%
Option C:	35%
Option D:	40%
Q3.	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
Q4.	A 4-cylinder four stroke petrol engine develops 14.7 KW at 1000 r.p.m. The mean effective pressure is 5.5 bar. Calculate the bore and stroke of the engine, if the length of stroke is 1.5 times the bore.
Option A:	87.9 mm and 131.8 mm
Option B:	90 mm and 134 mm
Option C:	97.4 mm and 138 mm
Option D:	80 mm and 128 mm
Q5.	In a Morse test for a 2-cylinder, 2-stroke, spark-ignition engine, the brake power was 9 kW whereas the brake powers of individual cylinders with spark cut off were 4.25 kW and 3.75 kW respectively. The mechanical efficiency of the engine is
Option A:	90 %
Option B:	80 %

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Option C:	70 %
Option D:	45.5 %
Q6.	With dissociation, the exhaust gas temperature
Option A:	decreases
Option B:	increases
Option C:	no effect
Option D:	increases up to certain air-fuel ratio and then decreases
Q7.	The timing of the exhaust valve affects
Option A:	mechanical efficiency
Option B:	volumetric efficiency
Option C:	indicated thermal efficiency
Option D:	break thermal efficiency
Q8.	In diesel cycles compared to Otto cycle, the losses are
Option A:	lesser
Option B:	more
Option C:	equal
Option D:	cannot predict
Q9.	The ignition of the charge by some hot surface within the engine before the passage of spark is called
Option A:	Pre-ignition
Option B:	Detonation
Option C:	Ignition delay
Option D:	Auto-ignition
Q10.	The ignition quality of S.I engine is expressed by
Option A:	Cetane number
Option B:	Octane number
Option C:	Calorific value
Option D:	Brake specific fuel consumption
Q11.	The loud pulsating noise heard within the cylinder of S.I engine is known as
Option A:	Detonation
Option B:	Turbulence
Option C:	Pre-ignition
Option D:	Supercharging
Q12.	In S.I engines, the delay period is of the order of
Option A:	0.001sec
Option B:	0.002sec
Option C:	0.003sec
Option D:	0.004sec

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Q13.	L-MPFI system uses
Option A:	Port injection
Option B:	Direct injection
Option C:	Manifold injection
Option D:	Throttle body injection
Q14.	The air requirement of a petrol engine during starting compared to theoretical air required for complete combustion is
Option A:	More
Option B:	Less
Option C:	Same
Option D:	May be more or less depending on engine capacity
Q15.	The main disadvantage of Air Injection System is:
Option A:	High mean effective pressure
Option B:	Heavy & viscous fuel can be injected
Option C:	High pressure multi-stage compressor is required
Option D:	Fuel pump can develop small pressure
Q16.	To eliminate the knock in CI Engines we want to achieve auto-ignition as early as possible and therefore _____ delay period & _____ self-ignition temperature of the fuel is required.
Option A:	Long, high
Option B:	Short, low
Option C:	Long, low
Option D:	Short, high
Q17.	Jerk Pump System is universally used for
Option A:	Low Speed Engines
Option B:	High Speed Engines
Option C:	Medium Speed Engines
Option D:	Medium and High Speed Engines
Q18.	Main advantage of pintaux nozzle is
Option A:	Better cold starting performance without any detrimental effect on efficiency
Option B:	Requires no lubrication
Option C:	Makes injection system light weight and simple
Option D:	Reduces harmful emissions
Q19.	Find out the INCORRECT statement
Option A:	Single hole nozzles are used in open combustion chambers
Option B:	The size of hole is usually larger than 0.2 mm
Option C:	Single hole nozzle has a tendency to dribble
Option D:	Very low injection pressure is needed

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Q20.	Which is the anti-freeze solution commonly used in automobiles?
Option A:	Carbon di-sulphite
Option B:	Ammonium chloride
Option C:	Alcohol
Option D:	Brine
Q21.	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%
Q22.	Which of the following is not the disadvantage of Overcooling?
Option A:	Inadequate lubrication of the engine
Option B:	Engine life reduced due to corrosion
Option C:	Increased cylinder bore wear
Option D:	Engine seizure
Q23.	Disadvantage of hydrogen as a fuel in IC engine is
Option A:	storage is safe
Option B:	low NOx
Option C:	detonating tendency
Option D:	easy handling
Q24.	Which of the following fuel has little tendency towards detonation?
Option A:	Benzene
Option B:	Iso-octane
Option C:	Normal heptane
Option D:	Alcohol
Q25.	An _____ sensor senses the amount of oxygen in the engine exhaust and calculates air-fuel ratio.
Option A:	Engine temperature
Option B:	Exhaust gas
Option C:	Air flow
Option D:	Air inlet temperature

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Program: TE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2016/2012

Examination: Third Year Semester V

Course Code: ECC501 and Course Name: Microprocessor & Peripheral Interfacing

Time: 1 hour

Max. Marks: 50

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

Q1.	Data bus is
Option A:	Omni-directional
Option B:	Uni-directional
Option C:	Tri-directional
Option D:	Bi-directional
Q2.	The External system bus architecture is created using _____ architecture
Option A:	Pascal
Option B:	Dennis Ritchie
Option C:	Charles Babbage
Option D:	Von Neumann
Q3.	BIU contains _____ bytes of Queue to prefetch instructions from the memory
Option A:	4
Option B:	3
Option C:	6
Option D:	9
Q4.	DIV BX
Option A:	saves quotient in AX and remainder in DX
Option B:	saves quotient in DX and remainder in AX
Option C:	saves quotient in AX and remainder in BX
Option D:	saves quotient in BX and remainder in AX
Q5.	MOV BL, 73H is an example of _____ addressing Mode
Option A:	Direct
Option B:	Indirect Register
Option C:	Immediate
Option D:	Register
Q6.	The mode that is used in 8254 PTI for generation of square wave is :-

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Option A:	Mode 0
Option B:	Mode 1
Option C:	Mode 2
Option D:	Mode 3
Q7.	The number of counters that are present in the programmable timer device 8254 is:-
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q8.	What is the function of SOC signal in ADC 0809/0808 IC
Option A:	It initiates the Start of Conversion from analog to digital signal
Option B:	It initiates the Start of Clock pulse for ADC
Option C:	It stands for Successive output conversion
Option D:	It stands for Serial output conversion
Q9.	The number of inputs that can be connected at a time to an ADC that is integrated with successive approximation is
Option A:	4
Option B:	2
Option C:	8
Option D:	16
Q10.	BHE and A ₀ is used
Option A:	for the selection of Odd and Even memory bank
Option B:	for selection of minimum and maximum mode
Option C:	for interrupt request
Option D:	none of the mentioned
Q11.	To address a memory location out of N memory locations, the number of address lines required is
Option A:	log N (to the base 2)
Option B:	log N (to the base 10)
Option C:	log N (to the base e)
Option D:	log (2N) (to the base e)
Q12.	The unit that executes all the numeric processor instructions in 8087
Option A:	Control unit
Option B:	ALU
Option C:	Numeric extension unit
Option D:	EU
Q13.	In I/O mapped I/O devices

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Option A:	IN/OUT instructions can be used for data transfer
Option B:	MOV instructions can be used for data transfer
Option C:	SWAP instruction is used
Option D:	DMA instructions are used
Q14.	For addressing the 4K bytes of memory, _____ address lines are required
Option A:	10
Option B:	11
Option C:	12
Option D:	13
Q15.	Name the processor which helps in floating point calculations.
Option A:	microprocessor
Option B:	microcontroller
Option C:	Math-coprocessor
Option D:	DMA controller
Q16.	The technique used ADC 0809/0808 IC for analog to digital conversion is
Option A:	Dual slope integration techniques
Option B:	Successive approximation
Option C:	Delta-Encoded Conversion
Option D:	Single slope Integration
Q17.	While programming the ADC 0809/0808 IC what steps are followed?
Option A:	select the analog channel, monitor the conversion, display the digital results
Option B:	select the analog channel, issue SOC signal (L to H to L pulse) for start of conversion, wait for EOC signal to indicate end of conversion, read the digital results
Option C:	select the analog channel, read the digital results
Option D:	select the analog channel, give EOC signal, read the digital results
Q18.	The instruction that loads effective address formed by destination operand into the specified source register is
Option A:	LOAD
Option B:	LEA
Option C:	PUSH
Option D:	POP
Q19.	In 8254 PTI control word register, if SC1=0 and SC0=1, then the counter selected is
Option A:	Counter 0
Option B:	Counter 1
Option C:	Counter 2
Option D:	Counter 3

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Q20.	The Programmable interrupt controller is required to
Option A:	to generate square wave
Option B:	handle one or more interrupt requests at a time
Option C:	for DMA transfer
Option D:	handle no interrupt request
Q21.	What is the content of AX after execution of following instructions : MOV AL,05H INC AL MOV BL,02H DEC BL MUL BL
Option A:	0006H
Option B:	0010H
Option C:	0012H
Option D:	0BH
Q22.	A set of register can contain
Option A:	Data, address, result
Option B:	Address
Option C:	Data
Option D:	Result
Q23.	The language processor that reads the complete source program written in high level language as a whole in one go and translates it into an equivalent program in machine language is called as
Option A:	Assembler
Option B:	Compiler
Option C:	Interpreter
Option D:	Cross-Compiler
Q24.	The register of 8259 PIC that stores all the interrupt requests in it is
Option A:	Interrupt Request Register
Option B:	In-Service Register
Option C:	Priority resolver
Option D:	Interrupt Mask Register
Q25.	In 8255 PPI in BSR mode, port address of port A is 30H, then the following program will MOV AL,0AH OUT 33H, AL MOV AL,0BH OUT 33H, AL

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Option A:	Blink bit 5 of Port C
Option B:	Blink bit 7 of Port C
Option C:	Blink bit 3 of Port C
Option D:	Blink bit 8 of Port C

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Program: BE Information Technology

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: ITC501 and Course Name: Microcontroller and Embedded Programming

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 amount of memory in a real time system is generally _____.
Option A:	less compared to PCs
Option B:	high compared to PCs
Option C:	same as in PCs
Option D:	they do not have any memory
Q2.	Real time systems must have _____.
Option A:	preemptive kernels
Option B:	non preemptive kernels
Option C:	preemptive kernels or non preemptive kernels
Option D:	neither preemptive nor non preemptive kernels
Q3.	What does CISC stand for?
Option A:	Circuit Instruction Set Computer
Option B:	Complex Instruction Set Computer
Option C:	Complex Instruction Set Circuit
Option D:	Compact Instruction Set Computer
Q4.	Which of the following is a feature of Embedded System?
Option A:	It is used for specific application
Option B:	Has large memory
Option C:	Power consumption is more
Option D:	They do not have minimal user interface
Q5.	In real time operating system
Option A:	all processes have the same priority
Option B:	a task must be serviced by its deadline period
Option C:	process scheduling can be done only once
Option D:	kernel is not required
Q6.	ACALL instruction allows specifying _____ address in the instruction and calling subroutine within _____ program memory block.
Option A:	2byte, 3K

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Option B:	11bit, 2K
Option C:	9bit, 2K
Option D:	1byte, 3K
Q7.	Which of the flag is not present in 8051?
Option A:	zero flag
Option B:	Parity flag
Option C:	carry flag
Option D:	auxiliary carry flag
Q8.	The number of Instructions in RISC is ____ as compared to CISC.
Option A:	Less
Option B:	More
Option C:	Complex
Option D:	Variable
Q9.	How many times loop function runs in Arduino IDE:
Option A:	4
Option B:	1
Option C:	Forever
Option D:	5
Q10.	In Timer Control Register, Mode 1 uses
Option A:	8-bit timer
Option B:	16-bit timer
Option C:	32 -bit timer
Option D:	64-bit timer
Q11.	In Von-Nuemann architecture
Option A:	Data and instructions are stored in same memory
Option B:	Data and instructions are not stored in same memory
Option C:	Data is stored in memory
Option D:	Instructions are stored in memory
Q12.	LET memory location 25 have value 10h, location 35 have value 20h.After execution of following instructions what is the value of a and b. mov r0, #25h mov b, #60h mov a ,@r0 add a, b
Option A:	70,50
Option B:	40,50
Option C:	70,60
Option D:	60,70

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Q13.	It starts with a /* and continues until a */ What does this do?
Option A:	Loads a sketch
Option B:	Makes comments
Option C:	Compiles quicker
Option D:	Makes stars appear
Q14.	Which of the following is a 16 bit register of 8051?
Option A:	DPTR
Option B:	A
Option C:	B
Option D:	PSW
Q15.	The major drawback of RISC processors are
Option A:	Poor code density, non-executable x86 code
Option B:	High code density, non-executable x86 code
Option C:	Poor code density, executable x86 code
Option D:	High code density, executable x86 code
Q16.	External Access(EA) is used to permit _____
Option A:	Peripherals
Option B:	ALE
Option C:	Memory interfacing
Option D:	Power supply
Q17.	The _____ contains condition code flags, and the current mode bits.
Option A:	Current Program Status Register (CPSR)
Option B:	General Purpose registers
Option C:	LR
Option D:	PC
Q18.	Which is the default register bank selected after 8051 is powered on?
Option A:	BANK0
Option B:	BANK1
Option C:	BANK2
Option D:	BANK3
Q19.	The flags of 8051 are not affected by which of the following instructions?
Option A:	Arithmetic instructions
Option B:	Logical instructions
Option C:	Bit manipulation instructions
Option D:	Data transfer instructions
Q20.	DHT11 is _____ sensor.
Option A:	Proximity sensor
Option B:	Humidity sensor

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Option C:	Touch sensor
Option D:	Pressure sensor
Q21.	The amount of time required for the scheduling dispatcher to stop one process and start another is known as _____
Option A:	event latency
Option B:	interrupt latency
Option C:	dispatch latency
Option D:	context switch
Q22.	Which of the following registers is associated with timer MODES of 8051?
Option A:	TMOD
Option B:	SCON
Option C:	PCON
Option D:	TCON
Q23.	Which flag is associated with serial communication of 8051?
Option A:	TI
Option B:	TF0
Option C:	TF1
Option D:	IE
Q24.	Peripheral Component Interconnect (PCI) Express interconnects which modules?
Option A:	Serial communication
Option B:	Wifi, Bluetooth, GSM cards
Option C:	Micro SD card
Option D:	Real Time Clock
Q25.	The Software Interrupt (SWI) is used to enter _____.
Option A:	supervisor mode
Option B:	User
Option C:	Abort
Option D:	Undef

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Inter Cluster

Program: BE Instrumentation Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: ISC501 and Course Name: Signals and Systems

Time: 1hour

Max. Marks: 50

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 T_1/T_2 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:	$E=\infty, P=\text{finite}$
Option C:	$E=\text{finite}, P=0$
Option D:	$E=\text{finite}, P=\infty$
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

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Option D:	Both energy and power signal
Q7.	$\delta(at) =$
Option A:	$\delta(t)$
Option B:	$ a \delta(t)$
Option C:	$1/ a \delta(t)$
Option D:	$\delta^2(t)$
Q8.	$\int_{-\infty}^{\infty} x(\tau) \delta(t-\tau) d\tau =$
Option A:	$x(t)$
Option B:	$x(\tau)$
Option C:	$x(t) \delta(t)$
Option D:	$x(t-\tau)$
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 $X(\omega)$ is given by $\frac{1}{2\pi}$
Option A:	$\int_{-\infty}^{\infty} X(\omega) e^{-i\omega t} d\omega$
Option B:	$\int_{-\infty}^{\infty} X(\omega) e^{i\omega t} d\omega$

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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:	$X(\omega)$
Option B:	$X(-\omega)$
Option C:	$X(1/\omega)$
Option D:	$-X(\omega)$
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:	$2 \pi x(0)$
Option D:	$\frac{1}{2} \pi x(0)$
Q16.	Which one of the following cannot be the ROC of $\frac{5}{(s+3)(s+4)}$
Option A:	$\text{Re}(s) > -3$
Option B:	$\text{Re}(s) < -4$
Option C:	$-4 < \text{Re}(s) < -3$
Option D:	$-3 < \text{Re}(s) < -4$
Q17.	Inverse Laplace Transform of $[\frac{1}{(s+1)(s+2)}]$ for ROC; $-2 < \text{Re}(s) < -1$ 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^{-st_0} in the time domain
Option B:	Multiplication by e^{-st_0} in the frequency domain
Option C:	Multiplication by e^{st_0} in the time domain
Option D:	Multiplication by e^{st_0} 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

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Q20.	The Z transform of a system is $H(z) = \frac{z}{z-0.8}$. If the ROC is $ z < 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:	$\lim_{z \rightarrow 1} (z-1) X(z)$
Option B:	$\lim_{z \rightarrow 0} X(z)$
Option C:	$\lim_{z \rightarrow \infty} X(z)$
Option D:	$\lim_{z \rightarrow \infty} zX(z)$
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