

K. J. Somaiya Institute of Engineering and Information Technology
Sion, Mumbai - 400022
NAAC Accredited Institute with 'A' Grade
NBA Accredited 3 Programs
(Computer Engineering, Electronics & Telecommunication Engineering and Electronics Engineering)
Permanently Affiliated to University of Mumbai

EXAMINATION TIME TABLE (JANUARY 2021)


PROGRAMME - T.E. (Information Technology) (REV. -2012)(CBSGS)

SEMESTER - V

Days and Dates	Time	Course Code	Paper
Thursday, January 7, 2021	3.30 p.m to 5.30 p.m	TEITC501	COMPUTER GRAPHICS AND VIRTUAL REALITY
Saturday, January 9, 2021	3.30 p.m to 5.30 p.m	TEITC502	OPERATING SYSTEMS
Tuesday, January 12, 2021	3.30 p.m to 5.30 p.m	TEITC503	MICROCONTROLLER AND EMBEDDED SYSTEMS
Thursday, January 14, 2021	3.30 p.m to 5.30 p.m	TEITC504	ADVANCED DATABASE MANAGEMENT SYSTEMS
Saturday, January 16, 2021	3.30 p.m to 5.30 p.m	TEITC505	OPEN SOURCE TECHNOLOGIES

Important Note: • Change if any, in the time table shall be communicated on the college web site.

Mumbai
20th December 2020



PRINCIPAL

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: Information Technology

Curriculum Scheme: Rev2012

Examination: TE Semester V

Course Code: TEITC.501 and Course Name: Computer Graphics & Virtual Reality

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Fractals are those shapes which are
Option A:	irregularly irregular
Option B:	regularly irregular
Option C:	irregularly regular
Option D:	regularly regular
2.	Which of the following is the line generating algorithm which uses either delta x or delta y, whichever is larger and the value is further chosen as one raster unit to draw the line.
Option A:	DDA Line Algorithm
Option B:	Midpoint Line Algorithm
Option C:	Bresenham's Line Algorithm
Option D:	Generalized Bresenham's Algorithm
3.	In Raster scan display, the intensity values of every point in the picture are stored in
Option A:	Memory
Option B:	Frame buffer
Option C:	Processor
Option D:	Micron
4.	Seed fill algo for filling polygon is a ____ algorithm
Option A:	Recursive
Option B:	non-recursive
Option C:	Shift
Option D:	Impulsive
5.	For 2D object Rotation about fixed point can be found by ____
Option A:	Rotation - reflection – translation
Option B:	Translation - Rotation – Translation
Option C:	Rotation - Translation – Rotation
Option D:	Rotation – Translation
6.	In a boundary fill algorithm for filling a polygon, boundary defined regions may be either ____ connected or ____ connected.
Option A:	2,4
Option B:	8,16

Option C:	4,8
Option D:	8,6
7.	Which is not a line clipping algorithm?
Option A:	midpoint subdivision algorithm
Option B:	Liang Barsky Algorithm
Option C:	Cohen sutherland algorithm
Option D:	Sutherland Hodgman Algorithm
8.	Which is not a type of axonometric projection?
Option A:	Isometric
Option B:	Dimetric
Option C:	Trimetric
Option D:	Multiview
9.	The process of converting window to viewport is known as _____
Option A:	Workstation transformation
Option B:	Viewing Transformation
Option C:	Normalization Transformation
Option D:	Projection
10.	What does WCS stand for?
Option A:	World Common System
Option B:	World Coordinate System
Option C:	Wide coordinate system
Option D:	Wide common system
11.	_____ is NOT an animation Technique
Option A:	Keyframe animation
Option B:	Geometric Animation
Option C:	Motion Capture
Option D:	Procedural Animation
12.	The ____ is responsible for generating the image that a viewer sees
Option A:	viewer engine
Option B:	rendering engine
Option C:	graphics engine
Option D:	mathematical engine
13.	In OpenGL, what is a “stencil buffer”?
Option A:	A low-resource buffer used for accumulating fragments from rendering to “cut out” another accumulated render
Option B:	The act of swapping buffers done natively on the hardware
Option C:	A high-bandwidth buffer used for fragmenting images into accumulation buffers
Option D:	A special type of buffer used only to draw text
14.	The _____ forms the basis for surface models.
Option A:	surface model
Option B:	solid model
Option C:	wire frame model

Option D:	isometric model
15.	Hardware that creates sound from a mathematical representation _____
Option A:	Sound Synthesizer
Option B:	Stampers
Option C:	Speaker
Option D:	Sons
16.	Which of the following extensions would you not expect to see on a VRML file?
Option A:	Wrl
Option B:	wrl.gz
Option C:	Wrz
Option D:	Vr
17.	The following test validates if a point lies inside or outside a given polygon
Option A:	Odd-Even
Option B:	Single-Multiple
Option C:	Internal-External
Option D:	Entry-Exit
18.	For virtual environments to be successful, displays must _____
Option A:	Approach real time in presenting images to the users.
Option B:	Use low resolution when objects are not moving
Option C:	Be head-mounted
Option D:	Be boom-mounted
19.	In this type of VR environment, the three-dimensional scene is considered as a part of the physical environment.
Option A:	Immersive
Option B:	Semi immersive
Option C:	Non immersive
Option D:	Augmented
20.	Acronym for VRML:
Option A:	Virtual Reality Modulation Language
Option B:	Virtual Reality Modulation Language
Option C:	Virtual Reality Modeling Language
Option D:	Virtual Reality Marketing Language

Q2	Solve any Two Questions out of Three	10 marks each
A	What is virtual reality? Explain components of virtual reality.	
B	Explain Sutherland - Hodgeman polygon clipping algorithm with an example.	
C	Find reflection of point A(5,9) about line $y=x+5$.	

Q3.	Solve any Four out of Six	5 marks each
A	Explain Parallel and perspective projection.	
B	Write a note on Morphing.	

C	Write a note on VRML.
D	Explain Raster and Random scan display.
E	Explain Fractals with examples
F	Computer Animation

University of Mumbai
Examination 2020 under cluster 4(PCE)

Program: Information Technology

Curriculum Scheme: Rev2012

Examination: TE Semester V

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

Time: 2 hour

Max. Marks: 80

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Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	A
Q3.	B
Q4	A
Q5	B
Q6	C
Q7	D
Q8.	D
Q9.	B
Q10.	B
Q11.	B
Q12.	C
Q13.	A
Q14.	B
Q15.	A
Q16.	D
Q17.	A
Q18.	A
Q19.	C
Q20.	C

University of Mumbai

Examination 2020 under cluster 07 (Lead College: SCSJCE)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021
to 20th January 2021

Program: **Information Technology**

Curriculum Scheme: Rev2016

Examination: TE Semester V

Course Code: TEITC502 and Course Name: Operating Systems

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which of the following facilities provided by The microkernel architecture.
Option A:	Functionality
Option B:	Extensibility
Option C:	Reliability
Option D:	Portability
2.	_____ is referred as A listing the sequence of instructions that execute the process.
Option A:	Trace of the Program
Option B:	Trace of the Process
Option C:	Trace of the System
Option D:	Trace of the Module
3.	Select any one of the following is also known as Process Control block (PCB)
Option A:	Control block
Option B:	Data Block
Option C:	Task Controlling Block Control block
Option D:	Memory Block
4.	Select one from option. _____ can't be scheduled by the kernel.
Option A:	kernel level thread
Option B:	user level thread
Option C:	Process
Option D:	Multilevel thread
5.	Select correct option from following, In multilevel feedback scheduling algorithm
Option A:	classification of ready queue is permanent
Option B:	processes are not classified into groups
Option C:	a process can move to a different classified ready queue
Option D:	Is interrupt
6.	Suppose, two or more processes are waiting indefinitely for an event that can be caused only by one of the waiting processes is called
Option A:	MutexLocks

Option B:	Deadlock
Option C:	Spinlocks
Option D:	Memory lock
7.	In which of the Indefinite blocking may occur if we remove processes from the list associated with a semaphore order
Option A:	FIFO
Option B:	LIFO
Option C:	LIFO and FIFO
Option D:	SSTF
8.	_____ is related to indefinite blocking or starvation is problem
Option A:	Race condition
Option B:	deadlocks
Option C:	blocklocks
Option D:	Mutual Exclusion
9.	Select correct option for the operating system must allocate and deal various resources for each active
Option A:	Resource
Option B:	Process
Option C:	Processor
Option D:	I/O Device
10.	_____ is also known as for The segment of code in which the process may change common variables, update tables, write into files:
Option A:	program
Option B:	critical section
Option C:	non – critical section
Option D:	synchronizing
11.	Which memory management scheme supports use's view of memory?
Option A:	Segmentation
Option B:	Paging
Option C:	Partitioned
Option D:	Continuous
12.	In which page replacement policy page that will not be used for the longest period of time is replaced?
Option A:	FIFO
Option B:	LRU
Option C:	Optimal
Option D:	LRU approximation
13.	Breaking physical memory into fixed size block called as _____
Option A:	Sections
Option B:	Segments
Option C:	Pages
Option D:	Frames

14.	Which disk scheduling algorithm selects the request with least seek time from the current head position?
Option A:	First come ,first served algorithm
Option B:	SCAN algorithm
Option C:	C-SCAN scheduling
Option D:	Shortest seek time first
15.	Which transfers the data directly between the memory and peripheral devices without the intervention of CPU?
Option A:	DMA controller
Option B:	CPU controller
Option C:	Cache controller
Option D:	Buffer controller
16.	Which kernel module controls a device?
Option A:	Disk controller
Option B:	Device buffer
Option C:	Device driver
Option D:	DMA controller
17.	___ initializes all aspects like CPU, registers, device controller and main memory and starts operating system.
Option A:	Bootstrap program
Option B:	Swapping program
Option C:	High level program
Option D:	Preprocessed program
18.	File is data type
Option A:	integer
Option B:	abstract
Option C:	float
Option D:	double
19.	Which RAID level also known as memory style error correcting code organization?
Option A:	RAID level 0
Option B:	RAID level 1
Option C:	RAID level 2
Option D:	RAID level 3
20.	A thread that is to be cancelled is often referred to as
Option A:	Target thread
Option B:	Source thread
Option C:	New thread
Option D:	Old thread

Q2. (20 Marks)	Solve any Four out of Six	5 marks each
A	Explain user level thread and kernel level thread.	

B	Draw and explain the process state transition diagram.																																																																																										
C	<p>Consider the following system snapshot using data structures in the Banker's algorithm.</p> <table border="1"> <thead> <tr> <th rowspan="2">Process</th> <th colspan="4">Max</th> <th colspan="4">Allocation</th> <th colspan="4">Available</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>P0</td> <td>6</td> <td>0</td> <td>1</td> <td>2</td> <td>4</td> <td>0</td> <td>0</td> <td>1</td> <td>3</td> <td>2</td> <td>1</td> <td>1</td> </tr> <tr> <td>P1</td> <td>1</td> <td>7</td> <td>5</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>P2</td> <td>2</td> <td>3</td> <td>5</td> <td>6</td> <td>1</td> <td>2</td> <td>5</td> <td>4</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>P3</td> <td>1</td> <td>6</td> <td>5</td> <td>3</td> <td>0</td> <td>6</td> <td>3</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>P4</td> <td>1</td> <td>6</td> <td>5</td> <td>6</td> <td>0</td> <td>2</td> <td>1</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Using Banker's Algorithm, answer the following questions:</p> <ol style="list-style-type: none"> How many resources to type A, B, C and D are there? What are the contents of Need matrix? 	Process	Max				Allocation				Available				A	B	C	D	A	B	C	D	A	B	C	D	P0	6	0	1	2	4	0	0	1	3	2	1	1	P1	1	7	5	0	1	1	0	0					P2	2	3	5	6	1	2	5	4					P3	1	6	5	3	0	6	3	3					P4	1	6	5	6	0	2	1	2				
Process	Max				Allocation				Available																																																																																		
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P0	6	0	1	2	4	0	0	1	3	2	1	1																																																																															
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P4	1	6	5	6	0	2	1	2																																																																																			
D	What is meant by InterProcess Communication																																																																																										
E	<p>Consider the following system page frame:</p> <p style="text-align: center;">2,3,1,2,4,3,2,5,3,6,7,9,3,7</p> <p>Calculate hits and faults using FIFO page replacement technique.</p>																																																																																										
F	What is RAID? List its various levels.																																																																																										

Q3. (20 Marks)	Solve any Four out of Six	5 marks each
A	Explain different services provided by Operating System.	
B	Explain preemptive and non-preemptive algorithm.	
C	Explain the four conditions that create deadlock.	
D	<p>On the disk with 1000 cylinders, numbers 0 to 999, compute the number of tracks the disk arm must move to satisfy all request in the disk queue. Assume the last request received was at track 345 and the head is moving towards track 0, the queue in FIFO order contains request for the following tracks:</p> <p style="text-align: center;">123, 874, 692, 475, 105, 376</p> <p>Perform the computation for SSTF scheduling algorithm.</p>	
E	Explain Indexed file allocation methods in details.	
F	What is internal and external fragmentation?	

University of Mumbai

Examination 2020 under cluster 07 (Lead College: SCSJCE)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: **Information Technology**

Curriculum Scheme: Rev2016

Examination: TE Semester V

Course Code: TEITC502 and Course Name: Operating Systems

Time: 2 hour

Max. Marks: 80

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	B
Q3.	C
Q4.	B
Q5.	C
Q6.	B
Q7.	B
Q8.	B
Q9.	B
Q10.	B
Q11.	A
Q12.	C
Q13.	D
Q14.	D
Q15.	A
Q16.	C
Q17.	A
Q18.	B
Q19.	C
Q20.	A

University of Mumbai
Examination 2020 under cluster 7 (Lead College: SCSJCE)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January

2021 to 20th January 2021

Program: BE Information Technology

Curriculum Scheme: Rev.2012

Examination: TE Semester: V

Course Code: ITC503 and Course Name: Microcontroller & Embedded Systems

Time: 2 hours

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which of the following is NOT a feature of CISC processors?
Option A:	Greater number of instructions
Option B:	Limited number of general-purpose registers
Option C:	Fixed length instructions
Option D:	Can be Harvard or Von Neumann architecture
2.	ASIC stands for
Option A:	Application-System Integrated Circuits
Option B:	Application-Specific Integrated Circuits
Option C:	Application-System Internal Circuits
Option D:	Application-Specific Internal Circuits
3.	Which of the following is not true about RISC processors?
Option A:	addressing modes are less
Option B:	pipelining is key for high speed
Option C:	microcoding is required
Option D:	single machine cycle instructions
4.	What is the Address (SFR) for TCON, SCON, SBUF, PCON and PSW respectively?
Option A:	88H, 98H, 99H, 87H, 0D0H.
Option B:	98H, 99H, 87H, 88H, 0D0H
Option C:	0D0H, 87H, 88H, 99H, 98H
Option D:	87H, 88H, 0D0H, 98H, 99H
5.	Match the following: 1) TCON i) contains status information 2) SBUF ii) timer / counter control register.3) TMOD iii) idle bit, power down bit 4) PSW iv) serial data buffer for Tx and Rx. 5) PCON v) timer/ counter modes of operation.
Option A:	1->iii, 2->ii, 3->i, 4->v, 5->iv.
Option B:	1->v, 2->iii, 3->ii, 4->iv, 5->i.
Option C:	1->i, 2->v, 3->iv, 4->iii, 5->ii.
Option D:	1->ii, 2->iv, 3->v, 4->i, 5->iii.

6.	The 8051 can handle _____ interrupt sources.
Option A:	3
Option B:	4
Option C:	5
Option D:	2
7.	When the 8051 is reset and the \overline{EA} line is HIGH, the program counter points to the first program instruction in the:
Option A:	external data memory
Option B:	internal data memory
Option C:	internal code memory
Option D:	external code memory
8.	In Timer Control Register of 8051, Mode 1 uses
Option A:	8-bit timer
Option B:	16-bit timer
Option C:	32-bit timer
Option D:	64-bit timer
9.	The contents of the accumulator after the following operation will be MOV A, #0BH ANL A, #2CH
Option A:	11010111
Option B:	00001000
Option C:	00101000
Option D:	11011010
10.	Which of the following commands will copy the contents of RAM whose address is in register 0 to port 1?
Option A:	MOV @ P1, R0
Option B:	MOV P1, @ R0
Option C:	MOV @ R0, P1
Option D:	MOV P1, R0
11.	The total amount of external code memory that can be interfaced to the 8051 is:
Option A:	32K
Option B:	64K
Option C:	128K
Option D:	256K
12.	Which general purpose register holds eight bit divisor and store the remainder especially after the execution of division operation?
Option A:	A-Register
Option B:	Control Register
Option C:	Registers R0 through R7
Option D:	B-Register
13.	Which commands are used for addressing the off-chip data and associated codes respectively by data pointer?

Option A:	MOVX & MOVC
Option B:	MOVY & MOVB
Option C:	MOVZ & MOVA
Option D:	MOVC & MOVY
14.	Which among the below mentioned sequence of program instructions represent the correct chronological order for the generation of 2kHz square wave frequency? 1. MOV TMOD, 0000 0010 B 2. MOV TL0, # 06H 3. MOV TH0, # 06H 4. SETB TR0 5. CPL p1.0 6. ORG 0000H
Option A:	6, 5, 4, 3, 2, 1
Option B:	6, 2, 4, 5, 1, 3
Option C:	6, 5, 2, 4, 1, 3
Option D:	6, 1, 3, 2, 4, 5
15.	Which among the below mentioned reason is responsible for the generation of Serial Port Interrupt?
Option A:	Overflow of timer/counter 1
Option B:	High to low transition on pin INT1
Option C:	Setting of either TI or RI flag
Option D:	High to low transition on pin INT0
16.	The ability to shift or rotate in the same instruction along with other operation is performed with the help of _____
Option A:	Switching circuit
Option B:	Barrel shifter circuit
Option C:	Integrated Switching circuit
Option D:	Multiplexer circuit
17.	In ARM, conditional execution is supported in
Option A:	Only ARM mode
Option B:	Only THUMB mode
Option C:	Both ARM and THUMB mode
Option D:	A programmable manner
18.	_____ is NOT an object of RTOS Kernel
Option A:	Task
Option B:	ISR
Option C:	Accumulator
Option D:	Mutex
19.	Watchdog timer used in _____
Option A:	Battery Operated Smart card reader
Option B:	Automated Meter Reading System
Option C:	Digital Clock

Option D:	Digital Camera
20.	Which of the following allows a lower priority task to run despite the higher priority task is active and waiting to preempt?
Option A:	message queue
Option B:	message passing
Option C:	semaphore
Option D:	priority inversion
Q2. A	Solve any Two 5 marks each
i.	Explain in brief various characteristics of RTOS
ii.	What are the design metrics of an embedded system?
iii.	Explain CPSR of ARM 7
B	Solve any One 10 marks each
i.	Write a note on Pipelining of ARM7
ii.	Write a program to transfer "WELCOME" serially at 9600 baud rate using 8051. Assume frequency 11.0592MHz.
Q3. A	Solve any Two 5 marks each
i.	Explain the SFR's required for serial communication
ii.	Explain how semaphores can be used to solve shared data problem
iii.	Describe the features of ARM processor
B	Solve any One 10 marks each
i.	Draw & explain architecture of 8051 in detail
ii.	Explain different addressing modes of ARM7 with examples

University of Mumbai
Examination 2020 under cluster 7 (Lead College: **SCSJCE)**

**Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January
2021 to 20th January 2021**

Program: BE Information Technology

Curriculum Scheme: Rev.2012

Examination: TE Semester: V

Course Code: ITC503 and Course Name: Microcontroller & Embedded Systems

Time: 2 hour

Max. Marks: 80

Question Number	Correct Option
Q1.	C
Q2.	B
Q3.	C
Q4	A
Q5	D
Q6	C
Q7	C
Q8.	B
Q9.	B
Q10.	B
Q11.	B
Q12.	D
Q13.	A
Q14.	D

Q15.	C
Q16.	B
Q17.	A
Q18.	C
Q19.	A
Q20.	D

University of Mumbai

Examination 2020 under cluster 7 (Lead College: SSJCE)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: **Information Technology**

Curriculum Scheme: Rev 2012

Examination: TE Semester V

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

Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Correct syntax of assertion is
Option A:	CREATE ASSERTION [constraint name] CHECK ([search condition or predicate])
Option B:	CREATE ASSERTION CHECK ([search condition or predicate])
Option C:	CREATE ASSERTION [constraint name] WHERE [condition]
Option D:	CREATE CONSTRAINT [constraint name] CHECK ([search condition or predicate])
2.	Which statement is correct for "creating view sport_info extracting few attributes from the relation student, required by the sports teacher"?
Option A:	Create view sport_info as select sid, sname, sport_marks from student;
Option B:	Create view sport_info as select sid, sname, sport_marks from student to 'sports teacher';
Option C:	Create view CHECK sid, sname, sport_marks to 'sports teacher';
Option D:	Create view sport_info as sid, sname, sport_marks from student ;
3.	Check point is which type of recovery technique?
Option A:	Timestamp Based
Option B:	Log based
Option C:	Shadow paging
Option D:	Lock based
4.	Write-ahead logging techniques satisfies which properties of transaction?
Option A:	Consistency
Option B:	Isolation
Option C:	Atomicity and Durability
Option D:	Integrity
5.	which privileges used by Discretionary access control in DBMS
Option A:	update privileges
Option B:	delete privileges
Option C:	granting and revoking privileges
Option D:	remove and insert privileges
6.	An attacker might infect a target by using which advance method

Option A:	sql injection
Option B:	denial of service attack
Option C:	Hacking
Option D:	Psychological manipulation
7.	clustered index is the example of
Option A:	non dense index
Option B:	primary index
Option C:	secondary index
Option D:	logical index
8.	An attribute or set of attributes used to look up records in a file is called a
Option A:	search key
Option B:	primary key
Option C:	candidate key
Option D:	super key
9.	Which of the following is an unordered collection of elements that may contain duplicates?
Option A:	Set
Option B:	List
Option C:	Bag
Option D:	Dictionary
10.	In ODL schema, the keyword inverse is specified in
Option A:	Class
Option B:	Atomic Attribute
Option C:	Collection Attribute
Option D:	Relationships
11.	For query processing in distributed database management system , a query decomposition module
Option A:	must break up or decompose a query into subqueries that can be executed at the backup sites
Option B:	must break up or decompose a query into subqueries that can be executed at the client sites
Option C:	must break up or decompose a query into subqueries that can be executed at the primary sites
Option D:	must break up or decompose a query into subqueries that can be executed at the individual sites
12.	Which fragmentation divides a relation by grouping rows to create subsets of tuples, where each subset has a certain logical meaning?
Option A:	Derived fragmentation
Option B:	Horizontal fragmentation
Option C:	Vertical fragmentation
Option D:	Mixed fragmentation

13.	In ETL process Capture through Database Triggers is a type of which extraction technique?
Option A:	Immediate Data Extraction Technique
Option B:	Deferred Data Extraction Technique
Option C:	Logical Extraction Technique
Option D:	Physical Extraction Technique
14.	Data transformation includes which of the following?
Option A:	A process of changing data from a detailed level to a summary level
Option B:	A process of changing data from a summary level to a detailed level
Option C:	Integrating data from multiple sources.
Option D:	Extracting data from multiple sources.
15.	Which of the following is an advantage of the Fact constellations data warehouse schema?
Option A:	Allows user to analyze different subject areas using shared dimensions.
Option B:	Contains only on fact table
Option C:	Dimensions can not be shared by multiple dimensions
Option D:	Allows to analyze only one subject area.
16.	Which table is loaded into the Data Warehouse in the beginning of ETL?
Option A:	Fact Table attributes
Option B:	Dimension Table attributes
Option C:	Monitor Attributes
Option D:	Reserved Attributes
17.	Select the right sequence for the major steps involved in ETL process 1.Determine all the data source, both internal and external 2.Prepare data mapping for target data elements from sources 3.ETL for dimension tables 4.ETL for Fact tables
Option A:	1,3,2,4
Option B:	1,2,3,4
Option C:	3,4,1,2
Option D:	1,2,4,3
18.	<pre>SELECT item name, color, clothes SIZE, SUM(quantity) FROM sales GROUP BY rollup(item name, color, clothes SIZE);</pre> <p>How many groupings is possible in this rollup?</p>
Option A:	8
Option B:	4
Option C:	2
Option D:	1
19.	Which of the following is not the characteristics of a dimension table in a data warehouse?
Option A:	Dimension table key
Option B:	Large number of attributes (wide)

Option C:	Very large number of records
Option D:	Not normalized
20.	Consider the time dimension, store dimension and product dimension as a part of Star schema. Let us assume, day granularity for time dimension and one year data is available in the data warehouse. There are 300 stores reporting daily sales for 40, 000 products in each store and about 4000 products sell in each store daily. What is the maximum number of base fact table records?
Option A:	40000
Option B:	365*40000
Option C:	300*40000
Option D:	365*300*45000

Q2 (20 Marks)	Solve any Four out of Six	5 marks each
A	Explain assertion using an example	
B	Describe the ACID Properties of a transaction	
C	What do you mean by discretionary access control mechanism	
D	What is difference between Indexing and hashing	
E	Explain distributed database architecture with a diagram	
F	Consider Data Cube Placement Statistics with dimensions Department, Student, Company and placement fact table. Consider necessary attributes and explain any five OLAP operations.	

Q3 (20 Marks)	Solve any Four out of Six	5 marks each
A	Explain trigger using an example.	
B	Explain view serializability conditions	
C	Explain multilevel security authorization technique	
D	Explain different types of transparency in distributed database management system	
E	Explain star schema with example.	
F	What are the differences between OLTP and OLAP systems	

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Examination 2020 under cluster 7 (Lead College: SSJCE)

Examinations Commencing from 23rd December 2020 to 6th January 2021 and from 7th January 2021 to 20th January 2021

Program: Information Technology

Curriculum Scheme: Rev 2012

Examination: TE Semester V

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

Time: 2 hour

Max. Marks: 80

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	A
Q3.	B
Q4	C
Q5	C
Q6	D
Q7	A
Q8.	A
Q9.	C
Q10.	D
Q11.	D
Q12.	B
Q13.	A
Q14.	A
Q15.	A
Q16.	B
Q17.	B
Q18.	B
Q19.	C
Q20.	D

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Examination 2020 under cluster ___ (Lead College Short name)

Program: INFORMATION TECHNOLOGY (BE) Engineering

Curriculum Scheme: Rev2012

Examination: Third Year Semester V

Course Code: TEITC505 and Course Name: Open Source Technologies (OST)

Time: 2 hour

Max. Marks: 80

Q.1 (40 Marks)	Choose the correct option for following questions. All the questions are compulsory and carry equal marks.
1.	Which is not advantage of open source software?
Option A:	Bug-fixing
Option B:	Unified experience
Option C:	Community support
Option D:	Customization
2.	What does a program's end-user license agreement (EULA) typically include?
Option A:	Rules specifying how the software may be used
Option B:	No-warranty disclaimers
Option C:	End user and vender agreement
Option D:	System requirement
3.	_____directory contain configuration information.
Option A:	/etc
Option B:	/bin
Option C:	/boot
Option D:	/sbin
4.	Which option is used in sed to suppress the behavior of 'p' command?
Option A:	-q
Option B:	-n
Option C:	-i
Option D:	-v
5.	Which command is used to display the process for the current shell?

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Examination 2020 under cluster ___ (Lead College Short name)

Option A:	#ps -A
Option B:	# ps au
Option C:	#ps
Option D:	#ps aux
6.	pwd/var/ftp and /bin/ls are examples of?
Option A:	both are the example of Absolute path
Option B:	both are the examples of relative path
Option C:	first is example of relative path and second is example absolute path
Option D:	first is example of absolute path and second is example relative path
7.	Which of the following command is used to restart the network in linux?
Option A:	sudo /init.d/networking restart
Option B:	sudo /etc/init.d/network restart
Option C:	sudo /etc/init.d/ restart
Option D:	sudo /etc/networking restart
8.	Which command is used to list the rules of current IPTables?
Option A:	sudo -L
Option B:	iptables -l
Option C:	sudo iptables -L
Option D:	sudo iptables -F
9.	DHCP uses a 4-way handshaking process which are specified as:
Option A:	Detect, Offer, Request, Acknowledgement
Option B:	Detect, Receive, Request, Acknowledgement
Option C:	Discover, Offer, Request, Acknowledgement
Option D:	Discover, Receive, Request, Acknowledgement
10.	Which command is used to install FTP Server?
Option A:	sudo apt-get install vsftpd
Option B:	sudo install vsftpd

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Option C:	apt-get install vsftpd
Option D:	install vsftpd
11.	Which of the following is not an environment variable?
Option A:	OSTYPE
Option B:	HOME
Option C:	Mkdir
Option D:	SHELL
12.	_____statement matches an expression for more than one alternative.
Option A:	For
Option B:	Case
Option C:	While
Option D:	If
13.	Which of the following operators are used for logical execution?
Option A:	&&
Option B:	
Option C:	%%
Option D:	&& and
14.	test statement cannot _____
Option A:	compare two numbers
Option B:	compare two files
Option C:	compare two strings
Option D:	check a files attributes
15.	Which of the following API levels is used for Android 4.4?
Option A:	12
Option B:	13
Option C:	19
Option D:	15

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16.	Which of the following command lists all the available Android target platforms?
Option A:	List target
Option B:	Lists target
Option C:	Android list target
Option D:	Content list
17.	Android tries hard to _____ low level components, such as the software stack, with interfaces so that vendor-specific code can be managed easily.
Option A:	Confound
Option B:	Modularize
Option C:	Abstract
Option D:	Compound
18.	Which is not a component in android architecture?
Option A:	Activity
Option B:	Orientation
Option C:	Broadcast Receiver
Option D:	Content provider
19.	Which method is used to find GPS enabled or disabled programmatically in android?
Option A:	finish()
Option B:	getGPSstatus()
Option C:	onProviderDisable()
Option D:	getGPS()
20.	Which Broadcast In Android Includes Information About Battery State Level?
Option A:	Android.intent.action.BATTERY_CHANGED
Option B:	Android.intent.action.BATTERY_LOW
Option C:	Android.intent.action.BATTERY_OKAY
Option D:	Android.intent.action.CALL_BUTTON

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Q2 (20 Marks)	Solve any Four Questions out of Six	5 marks each
A	Write comparison between Open source software and FOSS.	
B	Explain role of LVM in Linux Kernel.	
C	Explain the process and commands of mounting devices and unmounting devices in Linux.	
D	Explain different types of virtual hosting.	
E	Explain the commands: chmod, chown, and chgrp.	
F	Explain openssl command.	

Q3 (20 Marks)	Solve any Two Questions out of Three	10 marks each
A	What is shell programming? Write a Shell Script that will sequentially clear the screen, print only name of current directory and display the name of currently logged in users.	
B	Explain role of Linux kernel and enlist different native Android libraries in Android Architecture.	
C	Discuss the steps for configuration of Linux machine as the Master DNS server	

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Examination 2020 under cluster ___ (Lead College Short name)

Program: INFORMATION TECHNOLOGY (BE) Engineering

Curriculum Scheme: Rev2012

Examination: Third Year Semester V

Course Code: TEITC505 and Course Name: Open Source Technologies (OST)

Time: 2 hour

Max. Marks: 80

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	A
Q3.	A
Q4.	B
Q5.	C
Q6.	D
Q7.	B
Q8.	C
Q9.	C
Q10.	A
Q11.	C
Q12.	B
Q13.	D
Q14.	B
Q15.	C
Q16.	C
Q17.	C
Q18.	B
Q19.	C
Q20.	A