NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MINOR-1 EXAMINATION, 7th September. 2018

II MCA, I Semester

CS6301 – Operating System Concepts

Time: 60 min

Max. Marks: 10

1. Explain the need/use of any five operating system services. [2.5]
2. Describe the various states and transitions of a five state process diagram. [2.5]
3. Consider the following set of processes with their CPU bursts and priorities. Find the average waiting time and average response time of FCFS, SJFS, RR (time quantum of 5 ms) and Priority scheduling algorithms using Gantt Chart. [2.5]

Process	CPU Burst (in ms)	Priority
P1	25	7
P2	32	5
P3	15	8
P4	13	3
P5	46	6

4. Explain dining philosopher's problem with necessary diagram. Discuss a solution using semaphores with necessary pseudocode. [2.5]

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
MINOR EXAMINATION, Sep 2018
II MCA – I SEMESTER
CS6302 Database Systems

Date: 11/9/2018 Time: 5:00 – 6:00 PM

1. Write a query to find the details of student who got 3rd maximum marks with an example? 2m
2. Describe about 3-tier architecture of database management systems. 2m
3. In a table one row is repeated several times. Write a query to find the repeated row. 1m
4. Write a query to get common records from two tables without using join operation. 2m
5. Define primary key, candidate key, foreign key and super key? 1m
6. Write a query and relational algebra expression for the following. 2m
   a) Find the names of sailors who have reserved a boat no 103
   b) Find the names of sailors who have reserved a red boat or green boat.

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
MID SEMESTER EXAMINATIONS, Sep 2018
II Master of Computer Applications, I Semester
CS6301 – OPERATING SYSTEMS CONCEPTS

Date: 17-09-2018 Time: 2:30 PM – 4:30 PM Max. Marks: 30

Answer ALL questions

1. Define the characteristics of various levels in storage device hierarchy. What is the difference between caching and buffering.
2. What are system calls? Explain any four types of system calls with corresponding examples.
3. Explain virtual machines with a diagram
4. Explain in detail *fork()* and *clone()* calls for thread creation.
5. What are the different ways of evaluating the CPU scheduling algorithms?
6. Explain the use of the four conditions for deadlock in a) deadlock prevention, b) deadlock avoidance, c) deadlock detection and d) recovery from deadlock.
7. Explain the impact of associative memory (translation look-aside buffer) on effective access time in paging hardware with necessary equations and diagrams.

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL
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SCHOOL OF MANAGEMENT
MID SEM EXAMINATION, sep 2018
MCA I SEMESTER

Organisation Structure and Personnel Management

Date: 18..09.18 Marks: 30 Duration: 2 hours

Answer all the questions.

All answers of a single question should be presented in one place.

1. What are the contribution of F W. Taylor. 5m
2. Explain 5 real time use of Taylor's principle in today's management of organisation. 5M
3. Explain the 14 principle of management with examples. 5M
4. Explain the Maslow's theory. 5M
5. ***"What about Melissa?"*** ***10M***

The year is 1990. Simmons Insurance Group is a small, highly respected, A-rated subsidiary of a large British conglomerate. The company is traditionally structured with four departments including marketing, financial, sales, and claims. At one time, Simmons had over 200 employees, but today it has been cut back to about 50.

Melissa, a bright, highly motivated individual, has worked for the Simmons Insurance Group for four years. She started as a summer intern right after college graduation working across departments learning the basics about coverage, investigations, liability, damage assessment and settlement of claims. Melissa was a star performer and, at the end of her internship, she was hired full time as a claims associate. Within a year of her hire date, Melissa was promoted to senior claims associate. Although she works long hours, Melissa enjoys her job for the variety of skills it requires. She is well liked by her coworkers in all departments, particularly for her willingness to lend a hand with any problem that arises. Melissa has hopes of being promoted to claims manager soon. However, due to cutbacks, the claims department recently experienced substantial downsizing and Melissa's group has already been cut in half.

Fearing that her job is next on the chopping block, Melissa approaches senior management with the idea that a new position be created for Melissa. Melissa witnessed problems arise when there was miscommunication between departments. Seeing a need to break up the silos of the organizational structure, Melissa suggests that her job title be Director of Internal Support and that her job responsibilities would include supporting all departments with whatever needs arise but most importantly to bridge departments to ensure consistent, open communication and excellent customer relations. Senior managers are wary of the new position, particularly given budget constraints. They meet to discuss the matter.

Imagining that Simmons operates under a Human Relations perspective, senior managers would want to keep Melissa as happy as possible. She had proven herself an asset to the company, and her continued feeling of self-esteem in her job would seem an important contribution to organizational productivity. Senior managers would have been comfortable with bottom-up communication, and could have been expected to see the value of Melissa's proposal for a horizontal communication channel in the creation of her new position (see Table 3.2). They may have met with her informally, face-to-face, to make her feel heard and appreciated.

However, a Human Relations approach would not have made senior management particularly receptive to Melissa's suggestions to restructure the org chart. The risk in a Human Relations approach would be an emphasis on making Melissa "feel" heard rather than actually hearing her. While Melissa's suggestion of a new, innovative position that could bring her personal fulfillment and could contribute to improved internal organizational communications might sound good on paper, with the company facing financial constraints, their concern might not be on actually gaining insight on the organization from those lower in the hierarchical chain. Human Relations approach would suggest that managers would not look for organizational solutions from below. Chances are, senior managers would have patted Melissa on the head, told her they'd keep her ideas in mind, then would have gone right back to whatever plans had been generated at the top.

What will become of Melissa?

If Simmons took a classical Human Relations approach, attempting to placate Melissa, they may not have gotten the productivity from Melissa they desired. Melissa may have been content to feel heard, even if her suggestions weren't implemented. However, subsequent studies of Human Relations theories could never find empirical evidence that happy workers are productive workers. Results showed that "humans are complicated, choice-making animals whose decisions about the amount of effort they should spend on any particular activity are based on a myriad of personal concerns" (Miller, 2009, p. 44). Just keeping Melissa happy probably wouldn't be enough. No doubt she would realize at some point that she was being pandered to rather than valued, and this would ruin her job satisfaction anyway. She may have decided to take her innovative ideas and find a company more in line with a Human Resource approach, a company that would value innovation from anywhere in the organization.

Beyond Human Relations

The weaknesses of Human Relations approaches led to the development of the more integrative approach of Human Resources. Human Relations was significant in moving the needle away from the oppressive control structures of Classical Management and a focus on pure production to a more human-centered approach. The shift to managers focusing on the human needs of individual workers, trying to create feelings of self-esteem and self-actualization as a means of productivity, was a tremendous improvement on the unforgiving structures of Classical Management. However, Human Relations could be hollow when attention and communication were only done for show. Further, companies still had to face issues of the bottom line, that weren't necessarily helped by happy workers. Human Relations was the necessary step to get to Human Resources, where managers would value the full participation of workers on every level as true resources of information and ideas for strengthening and growing organizations both internally and externally.

Maybe, there was a forward-thinking manager at Simmons who decided to give Melissa's ideas a chance. Fast forward 23 years to 2013, and we may find Melissa as a senior manager, even CEO, continuing to bring innovation to a growing company.

What do you think? How could managers operating from a Human Relations approach support Melissa AND productivity?

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NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MID SEMISTER EXAMINATIONS, Sep 2018

II MCA – I SEMESTER

CS6302 Database Systems

Date: 19/9/2018 Time: 2:30 PM – 4:30 PM Max Marks: 30

Answer the following questions.

1. a) Explain in detail about database management system advantages over file management system. 2M

   b) Draw an ER diagram for Hospital Management System with entities Hospital, Patient, Doctor and Medical-Record. Convert the designed ER model into tables and identify the relationship among them. 6M

2. a) Write an algorithm to identify closure set of attributes and explain with an example.2M

   b) Identify the candidate keys from the following Relation R= (A,B,C,D,E,F) and FD's AB->C, C->DE, E->F, F->B, E->A. 2M

   c) X= {A->C, AC->D, E->AD, and E -> H}
   Y= {A->CD, E->AH}
   Identify whether above X and Y sets of FD's are equivalent or not. 2M

3. a) Salesperson (sid, name, age, salary)
   Orders (oid, orderdate, sid, amount)
   Select name From Orders, Salesperson Where oid = sid groupby sid having count (sid) > 1.
   Is the above query works? If no, make it correct and answer the query. 2M

   b) Briefly describe about the *sub queries* with examples. 6M

   c) Identify the highest normal form with explanation from the following Relation R= (A, B, C, D) and FD's AB->D, CB->D, A->C, C->A. 2M

4. a) Illustrate the implementation of *inner join* and *outer joins* in SQL with an example. 3M

   b) Discuss in detail about the *SELECT*, *PROJECT* and *UNION* operations with an example. 3M

Department of Computer Science and Engineering
National Institute of Technology, Warangal
II/III M.C.A Mid-semester Examination September 2018

Time :2 Hours

Marks:30

SOFTWARE ENGINEERING

Answer all the following

1. In a particular process model users get a feel of the actual system and developers get to build something immediately. Also sometimes the process model can be problematic for some of the reasons. Which process model it is and what are the different problems we get with the model. 5

2. Regardless of whether a model is linear or iterative, prescriptive or agile, it can be characterized using the generic process frame work that is applicable for all process models. What are the core principles that can be applied to the frame work to every software process. 5

3. It has been found that classic life cycle leads to the blocking states in which some project team members must wait for other members to complete dependent tasks. In fact the time spent in waiting can exceed the time spent on productive work. In which process model the blocking of the teams is possible. Discuss the process model in detail. 5

4. In one of the process model the software is developed in a series of evolutionary releases. During early stages, the release might be a model or a prototype. During the later iterations, increasingly more complete versions of the engineered system are produced. Which process model it is and what are the difficulties associated with the model. 5

5. Discuss seven project factors that should be considered when planning the structure of software engineering teams. Explain? 5

6. Effective project management focuses on four P's. Discuss. 5

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MID SEM EXAMINATION, September 2018

II MCA, I Semester

CS6373 – Advanced Web Technologies (24.09.2018)

Maximum Marks: 30 Time Duration: 2 Hours

Attempt all the questions.

Q.1. What is CSS box model? What are the different ways to apply CSS to HTML? (Give Examples) (4)

Q.2. (a) Write a brief note on following HTML tags.
(i) span (ii) code (iii) section (iv) iframe (2)
(b) Write a brief note on following CSS properties with their syntax (each with 2 values).
(i) transition (ii) transform (iii) position (3)

Q.3 Consider following javascript code in which variable `arr' contains a list of items (3)

```
<script type="text/javascript">
    var arr = ["cabbage", "onion", "milk", "sugar", "tea"];
</script>
```

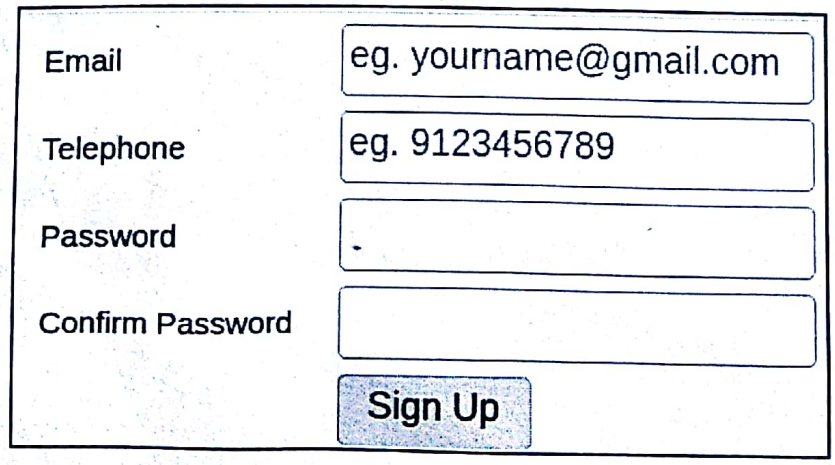
(a) Add "bread" and butter after milk in the list, (b) Remove "cabbage" from the list,
(c) Replace "onion" with "cheeze" and "jam"

Q.4. (a) Write a javascript code to develop a web application, which checks whether inputed number is a triangular number (Triangular numbers are: 0, 1, 3, 6, 10, 15, 21, ...). (3)
(b) What is jQuery? Write about any four features of jQuery. (1+2=3)

Q.5. (a) Explain DOM tree in HTML. Also explain following node selectors with one example.
(i) parent (ii) n^{th} child (iii) first-child (iv) next-sibling (1+1+2=4)
(b) Draw a dom tree for following code with all possible node relationships as edge lables. (3)

```
<body><div>
  <span>This is a span within a division.</span>
  <p class="test">This is a paragraph with specified class
within a division.</p>
  <div class="test"><p>This is a division with specified
class.</p> </div>
  <p>This is another paragraph within a division</p>
</div></body>
```

Q.6. Design following form using html and apply possible form validations using jquery. (2+3=5)



CS6304 - Operating System Lab
MCA 2nd Year, Lab Mid Exam
Set -2

Time: 2 Hrs Marks: 25

1. Write a C++ program to simulate a Shortest Job First (SJF) preemptive CPU scheduling algorithm considering the processes CPU burst time and arrival time for a given quantum. For a given input, the program should print the gantt chart and the average waiting time.

   15 M

2. Write a C++ program to simulate C-SCAN disk scheduling algorithm. For a given request sequence, the program should print the schedule (head locations & # of tracks traversed) and average number of head movements for each request.

   10 M

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

MINOR II EXAMINATION, NOV 2018

II MCA – I SEMESTER

Database Systems

Date: 20th Nov 2018 Duration: 30 minutes

1. Every binary relation is in _____normal form. [ ]
   a) BCNF b)3NF c)2NF d)None

2. Find out the no. of candidate keys for the table R(ABCDEFGH) and FD set
   F= {A->C, B->D, E->F, G->H, C->G} [ ]
   a) 1 b) 2 c) 3 d) 4

3. A relation R (ABC) and FD= {B->C}; If A is a candidate key for R, under what circumstances R to be in BCNF? [ ]
   a) C is a key for R b) B is a key for R
   c) B is not a key for R d) BC is a key.

4. A relation R (ABCDEF) and FD set F= {ABC->DE, BC->D, and E -> F} and is properly decomposed into BCNF. Then find the no. of foreign keys in decomposed relations. [ ]
   a) 3 b)4 c)2 d)1

5. The relation R (ABCDE) and the FD set FD {A->B, C->D, A->E} is decomposed into (ABC), (BCD), (CDE).
   I. Loss less
   II. Lossy
   III. Dependency preserving
   IV. Not Dependency preserving
   Which of the following is true? [ ]
   a) I & II. b) I &IV.
   b) II & III. d) None.

6. Consider a non serial schedule S has 3 transactions and the execution of operation is given below:
   S: $R_1(X), R_2(Z), R_3(X), R_1(Z), R_2(Y), R_3(Y), W_1(X), C_1, W_2(Z), W_3(Y), W_2(Y), C_3, C_2$;
   The above schedule is _____ [ ]
   a) Non recoverable schedule b) Recoverable schedule
   c) Strict schedule d) Cascade less schedule

7. Consider the non serial schedule
S: $R_1(X), R_2(Z), R_1(Z), R_3(X), R_3(Y), W_1(X), W_3(Y), R_2(Y), W_2(Z), W_2(Y)$.
The given non serial schedule is conflict equivalent to the following serial schedule [ ]
a) $T_1 \to T_2 \to T_3$ b) $T_2 \to T_1 \to T_3$ c) $T_3 \to T_1 \to T_2$ d) Not conflict serializable

8. Consider a schedule
S: $R_1(A), W_3(A), R_2(B), R_3(C), W_1(B), R_2(C), R_1(C)$, Commit2, $W_2(C), W_1(C)$, Commit1, Commit3.
The schedule S is suffering which of the following problems [ ]
a) Non repeatable read problem
b) Un committed read problem
c) Lost update problem
d) All of the above.

9. Consider the following schedule S: $R_1(X), W_1(X)$, ? On $T_1, R_2(X), W_2(X)$
Which of the following is to be present at the place of ? mark to make the schedule be strict. [ ]
a) Commit only b) Abort only
c) Either commit or abort d) Neither commit nor abort

10. Consider the following schedule S in four transactions T1, T2, T3, and T4.
Schedule: $R_1(A), W_2(A), R_2(B), W_3(B), W_1(A), W_3(A), W_2(B), W_4(B)$
Which of the following is a true statement? [ ]
a) The above schedule is conflict equivalent to more than one serial schedule.
b) The above schedule is neither view serializable nor conflict serializable.
c) The above given schedule view equivalent to 3 serial schedule.
d) The above schedule is view serialazable but not conflict serializable.

Roll No: Name:

Operating System Concepts, Minor-2
II Year MCA, 17-Nov-2018

Time: 30 Mins *Each question carries equal marks* **Max. Marks: 10**

1 _____ connects all the major components of the computer including the I/O devices.
a) PCI bus
b) Extension bus Ans:
c) SCSI bus

2 Which among the following register is not present in the communication with a printer
a) data-in register
b) data-out register Ans:
c) status register
d) control register

3 Pooling in efficient when
a) both the device and the controller are fast
b) significant amount of data needs to be transferred Ans:
c) Both a and b
d) host frequently checks for the infrequently available data

4 Interrupts allow the device to notify the CPU when
a) the device have data to transfer
b) I/O operation is complete Ans:
c) Both a and b

5 Which of the following are maskable interrupts?
a) page fault
b) stack fault Ans:
c) Both a and b
d) None of the above

6 Direct Memory Access (DMA) can be used to transfer large quantities of data from memory to a graphics ca
a) True
b) False Ans:

7 Which among the following is a character device?
a) Keyboard
b) Pen drive Ans:
c) None
d) Both a & b

8 The '**principle of least privilege**' dictates _____.
a) that programs should be given minimum privileges to perform their tasks
b) that users should be given minimum privileges to perform their tasks
c) that systems should be given minimum privileges to perform their tasks Ans:
d) All the above

9 The _____ resources of a computer needs protection?
a) Hardware
b) Software
c) Both a & b Ans:
d) Otherwise

10 The '**need to know principle**' states that a process should _____
a) only have access to those objects it needs to accomplish its task
b) only in the modes for which it needs access Ans:
c) only during the time frame when it needs access
d) All of the above

11 To create a file
a) allocate the space in file system
b) make an entry for new file in directory
c) allocate the space in file system & make an entry for new file in directory Ans:
d) none of the mentioned

12 What is the mounting of file system?
a) crating of a filesystem
b) deleting a filesystem
c) attaching portion of the file system into a directory structure Ans
d) removing portion of the file system into a directory structure

13 _____ is an approach to restricting system access to authorized users.
a) Role-based access control
b) Process-based access control
c) Job-based access control Ans
d) None of the mentioned

14 If the set of resources available to the process is fixed throughout the process's lifetime then its domain is
a) static
b) dynamic
c) neither static nor dynamic Ans
d) none of the mentioned

15 In domain structure what is Access-right equal to ?
a) Access-right = object-name, rights-set
b) Access-right = read-name, write-set
c) Access-right = read-name, execute-set Ans:
d) Access-right = object-name, execute-set

16 Who can add new rights and remove some rights of a resource?
a) copy
b) transfer
c) limited copy Ans:
d) owner

17 Why is it difficult to revoke capabilities ?
a) They are too many
b) They are not defined precisely
c) They are distributed throughout the system Ans:
d) None of the mentioned

18 The _____ are reserved for events such as unrecoverable memory errors.
a) non maskable interrupts
b) blocked interrupts
c) maskable interrupts
d) none of the mentioned Ans:

19 What is Domain ?
a) Domain = Set of all objects
b) It is a collection of protection policies
c) Domain= set of access-rights
d) None of the mentioned Ans:

20 What is raw disk?
a) disk without file system
b) empty disk
c) disk lacking logical file system
d) disk having file system Ans:

Operating System Lab, Slip Test
II Year MCA, 17-Nov-2018

Time: 30 Mins **Max. Marks: 10**

Each question carries equal marks

1 The processes that are residing in main memory and are ready and waiting to execute are kept on a list called
a) job queue
b) ready queue Ans:
c) execution queue
d) process queue

2 The two steps of a process execution are :
a) I/O & OS Burst
b) CPU & I/O Burst Ans:
c) Memory & I/O Burst
d) OS & Memory Burst

3 'Aging' is :
a) keeping track of cache contents
b) keeping track of what pages are currently residing in memory Ans:
c) keeping track of how many times a given page is referenced
d) increasing the priority of jobs to ensure termination in a finite time

4 To ensure difficulties do not arise in the readers – writers problem, _____ are given exclusive access to the shared object.
a) readers
b) writers Ans:
c) readers and writers
d) none of the mentioned

5 All unsafe states are :
a) deadlocks
b) not deadlocks Ans:
c) fatal
d) none of the mentioned

6 A deadlock avoidance algorithm dynamically examines the _____ to ensure that a circular wait condition can never exist.
a) resource allocation state
b) system storage state Ans:
c) operating system
d) resources

7 Concurrent access to shared data may result in :
a) data consistency
b) data insecurity Ans:
c) data inconsistency
d) none of the mentioned

8 Which one of the following is the address generated by CPU?
a) physical address Ans:
b) absolute address
c) logical address
d) none of the mentioned

9 Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called
a) fragmentation Ans:
b) paging
c) mapping
d) none of the mentioned

10 In paged memory systems, if the page size is increased, then the internal fragmentation generally :
a) becomes less
b) becomes more
c) remains constant
d) none of the mentioned
Ans:

11 The size of a process is limited to the size of :
a) physical memory
b) external storage
c) secondary storage
d) none of the mentioned
Ans:

12 The heads of the magnetic disk are attached to a ____ that moves all the heads as a unit.
a) spindle
b) disk arm
c) track
d) none of the mentioned
Ans:

13 In the _____ algorithm, the disk arm starts at one end of the disk and moves toward the other end, servicing requests till the other end of the disk. At the other end, the direction is reversed and servicing continues.
a) LOOK
b) SCAN
c) C-SCAN
d) C-LOOK
Ans:

14 Linux _____ the use of multiple swap spaces.
a) allows
b) does not allow
c) may allow
d) none of the mentioned
Ans:

15 In the layered approach of Operating Systems :
a) Bottom Layer(0) is the User interface
b) Highest Layer(N) is the User interface
c) Bottom Layer(N) is the hardware
d) Highest Layer(N) is the hardware
Ans:

16 In contiguous allocation :
a) each file must occupy a set of contiguous blocks on the disk
b) each file is a linked list of disk blocks
c) all the pointers to scattered blocks are placed together in one location
d) none of the mentioned

17 In contiguous allocation :
a) each file must occupy a set of contiguous blocks on the disk
b) each file is a linked list of disk blocks
c) all the pointers to scattered blocks are placed together in one location
d) none of the mentioned
Ans:

18 For any type of access, contiguous allocation requires _____ access to get a disk block.
a) only one
b) at least two
c) exactly two
d) none of the mentioned
Ans:

19 In the two level directory structure :
a) each user has his/her own user file directory
b) the system doesn't have its own master file directory
c) all of the above
d) none of the above
Ans:

20 An absolute path name begins at the :
a) leaf
b) stem
c) current directory
d) root
Ans:

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
END SEMESTER, Dec 2018
II Master of Computer Applications, I Semester
CS6301 – OPERATING SYSTEMS CONCEPTS

Date: 30-11-2018 Time: 2:30 PM – 5:30 PM Max. Marks: 50

Answer ALL questions

1. Explain the peemptive and non-preemptive CPU scheduling algorithms with examples. Evaluate the preemptive and non-preemptive versions of SJF and RR CPU scheduling algorithms for the following processes, to identify the best scheduling algorithm based on average waiting time. Consider a time quantum of 6 ms. 2+3

Process	CPU Burst (in ms)
P1	21
P2	15
P3	8
P4	36

Explain any three types of operating systems. Discuss the need for MicroKernels in the design of Real-time embedded systems. 3+2

2. Explain the various approaches to inter-process communication among cooperating processes with necessary diagrams. Explain the impact of Naming, Synchronization and Buffering on the design of message passing systems. 2+3
Describe the Producer-Consumer problem with necessary pseudocode. Explain the solution (algorithm) to Producer-Consumer problem using Semaphores. 5

3. Explain the boot process of a computer. Explain the use of builder, linker and loader in creating a new process for CPU scheduling. 2+3
Explain the following terms in operating system: Internal fragmentation, Critical section, Kernel threads, Pooling and Virtual Memory. 1x5

4. Explain the Banker's Resource-Request algorithm describing the purpose of each variable (vector/array) used in this algorithm. 5
Explain the contiguous, linked, and indexed allocation methods for storing files on disks with necessary diagrams. 5

5. Explain the following program/network/system threats:
Trojan Horse, Trap Door, Logic Bomb, Viruses and Denial of Service attack. 1x5
Explain how ***access rights*** to ***resources*** are given to ***protection domains*** in Access Matrix. Describe the use of ***switch***, ***copy*** and ***owner*** rights to manager access rights in Access Matrix. What is the approach used to revoke ***access rights*** when Access Matrix is used ? 1 3 1

National institute of technology, Warangal
School of Management.

MCA II sem.
END sem. exam DEC 2018
Organization Structure and personnel management

Answer ALL questions

Date 01. 12. 2018 Time 3 hours MARKS 50

1. A) Explain Scientific management theory of management thought 5m
   B) Define leadership aND IDENTIFY TRAITS 5m

2. It is unique to hear about a CEO who studies happiness and motivation and builds those principles into the company's core values or about a company with a 5-week training course and an offer of $2,000 to quit anytime during that 5 weeks if you feel the company is not a good fit. Top that off with an on-site life coach who also happens to be a chiropractor, and you are really talking about something you don't hear about every day. Zappos is known as much for its 365-day return policy and free shipping as it is for its innovative corporate culture. Although acquired in 2009 by Amazon (NASDAQ: AMZN), Zappos managed to move from number 23 in 2009 on *Fortune* magazine's "100 Best Companies to Work For" list to 15 in 2010.
   Performance is a function of motivation, ability, and the environment in which you work. Zappos seems to be creating an environment that encourages motivation and builds inclusiveness. The company delivers above and beyond basic workplace needs and addresses the self-actualization needs that most individuals desire from their work experience. CEO Tony Hsieh believes that the secret to customer loyalty is to make a corporate culture of caring a priority. This is reflected in the company's 10 core values and its emphasis on building a team and a family. During the interview process, applicants are asked questions relating to the company's values, such as gauging their own weirdness, open-mindedness, and sense of family.
   Although the offer to be paid to quit during the training process has increased from its original number of $400, only 1% of trainees take the offer. Work is structured differently at Zappos as well. For example, there is no limit to the time customer service representatives spend on a phone call, and they are encouraged to make personal connections with the individuals on the other end rather than try to get rid of them. Although Zappos has over 1,300 employees, the company has been able to maintain a relatively flat organizational structure and prides itself on its extreme transparency. In an exceptionally detailed and lengthy letter to employees, Hsieh spelled out what the new partnership with Amazon would mean for the company, what would change, and more important, what would remain the same. As a result of this type of

company structure, individuals have more freedom, which can lead to greater satisfaction. Although Zappos pays its employees well and offers attractive benefits such as employees receiving full health-care coverage and compressed workweek, the desire to work at Zappos seems to go beyond that. As Hsieh would say, happiness is the driving force behind almost any action an individual takes. Whether your goals are for achievement, affiliation, or simply to find an enjoyable environment in which to work, Zappos strives to address these needs.

10m

1. Give a suitable title to this case
2. How zappos moved in to the 15th position.
3. What is the approach it has adopted to reach that position?
4. Do you believe in this approach?
5. Place the above issue discussed in the case in a suitable management theory

III. a) Explain Henry Fayol Theory. 05m

b) explain the role played by Mission and Vision 05m

IV Discuss the Limitations of trait approach to leadership 05m

B) How to develop your leadership skills 05m

V A) explain the communication process 05m

B) Explain THE COMMUNICATION BARIEERS 05M

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NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL
(An Institution of National Importance)
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
END SEMESTER EXAMINATIONS, DEC' 2018
II MCA – I SEMESTER
Database Systems – CS6302

Date : 3rd Dec', 2018. Answer all the following questions. **Time:** 2:30 – 5:30 PM

1. Consider the database of an online bookstore. i) Every book has a title, isbn, year and price. The store also keeps the author and publisher for any book. ii) For authors, the database keeps the name, address and the url of their homepage. For publishers, the database keeps the name, address, phone number and the url of their website. iii) The store has several warehouses, each of which has a code, address and phone number. iv) The warehouse stocks several books. A book may be stocked at multiple warehouses. v) The database records the number of copies of a book stocked at various warehouses. vi) The bookstore keeps the name, address, email-id, and phone number of its customers. vii) A customer owns several shopping basket. A shopping basket is identified by a basketID and contains several books. viii) Some shopping baskets may contain more than one copy of same book. The database records the number of copies of each book in any shopping basket. Design an ER diagram for such a bookstore, identify relationships, map the designed ER diagram into schema and identify keys or constraints for this problem. 8

2. a. Identify the functional dependencies for the relation shown below. The relation Dream Home Customer Rental Details form holds details about property rented by a given customer. Describe why the relation in not in 1NF. Using the identified functional dependencies, describe and illustrate the process of normalization by converting table 1 to 3rd normal form relations. Identify the primary key and foreign keys in your 3NF relations. 6

Custno	Cname	Propno	Paddr	Rntst	Rntfnsh	Rent	Ownerno	Onmae
CR76	John kay	PG4	6 Lawrence st, Elmont	7/1/10	8/31/06	700	CO40	Tina Murphy
		PG16	5 Nova Dr, East Meadow	9/1/06	9/1/08	900	CO93	Tony Shaw
CR56	Aline Stewart	PG4	6 Lawrence st, Elmont	9/1/02	6/10/04	700	CO40	Tina Murphy
		PG36	2 Manor Rd Scarsdale	8/1/04	12/1/05	750	CO93	Tony Shaw
		PG16	5 Nova Dr, East Meadow	8/1/06	9/1/10	900	CO93	Tony Shaw

b. Identify the irreducible set of FDs for the following FDs. 2
FDs = {A->BC, ABE->CDGH, C->GD, D->G, E->F}.

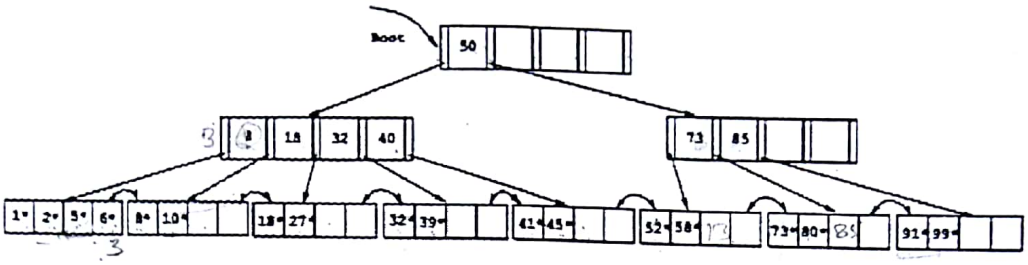
c. Explain the lossless join and dependency preserving properties with an example. 2

3. a. Assume that you have just built a dense B+ tree index using a heap file containing 20,000 records. The key field for this B+ tree index is a 40-byte string, and it is a candidate key. Pointers (i.e., record ids and page ids) are (at most) 10-byte values. The size of one disk page is 1000 bytes. The index was built in a bottom-up fashion using the bulk-loading algorithm, and the nodes at each level were filled up as much as possible. i) How many levels does the resulting tree have? ii) For each level of the tree, how many nodes are at that level? 4

Pending – RS, RF, Prop. Chart

A B325

b. Consider the B+ tree index of order d = 2 shown in Figure.
   i. Show the B+ tree that would result from inserting a data entry with key 3 into the original tree. How many page reads and page writes does the insertion require? 6
   ii. Show the B+ tree that would result from deleting the data entry with key 8 from the original tree, assuming that the right sibling is checked for possible redistribution.
   iii. Show the B+ tree that would result from starting with the original tree, inserting a data entry with key 46 and then deleting the data entry with key 52.



4. a. Describe two phase locking protocol. 2
   b. Consider a database with objects X and Y and assume that there are two transactions T1 and T2. Transaction T1 reads objects X and Y and then writes object X. Transaction T2 reads objects X and Y and then writes objects X and Y. Give three example histories over transactions T1 and T2 that result in a write-read conflict, a read-write conflict and a write-write conflict respectively. Show that each serial history involving transactions T1 and T2 preserves the consistency requirement of the database. 5
   c. We call a transaction that only reads database object a read-only transaction; otherwise the transaction is called a read-write transaction. Give brief answers to the following questions: 4
      i. Write about lock thrashing and when does it occur?
      ii. What happens to the database system throughput if the number of read-write transactions is increased?

5. a. Given two relations R1 and R2, where R1 contains N1 tuples, R2 contains N2 tuples, and N2 > N1 > 0, give the minimum and maximum possible sizes (in tuples) for the resulting relation produced by each of the following relational algebra expressions. In each case, state any assumptions about the schemas for R1 and R2 needed to make the expression meaningful: (1)R1∪R2, (2) R1∩R2, (3) R1−R2, (4) R1×R2,(5) π_a (R1) (6) R1/R2. 3
   b. Consider the following schema: Suppliers (sid, sname, address),Parts (pid, pname, color), Catalog (sid, pid, cost). State what the following queries compute: 8
      i. $\pi_{sname}(\pi_{sid}((\sigma_{color='red'}Parts) \bowtie (\sigma_{cost<100}\ catalog) \bowtie suppliers))$
      ii. $\pi_{sname}((\sigma_{color='red'}Parts) \bowtie (\sigma_{cost<100}\ catalog) \bowtie suppliers)) \cap (\pi_{sname}((\sigma_{color='green'}Parts) \bowtie (\sigma_{cost<100}\ catalog) \bowtie suppliers))$
      iii. $\rho(R1, Catalog)$
      $\rho(R2, Catalog)$
      $\pi_{R1.sid,R2.sid}(\sigma_{R1.pid=R2.pid \wedge R1.sid \neq R2.sid \wedge R1.cost>R2.cost}(R1 \times R2))$
      iv. $\rho(R1, Catalog)$
      $\rho(R2, Catalog)$
      $\pi_{R1.pid}\sigma_{R1.pid=R2.pid \wedge R1.sid \neq R2.sid}(R1 \times R2)$.

Department of Computer Science and Engineering
National Institute of Technology, Warangal
II/III M.C.A End-Semester Examination December 2018

Time :3 Hours | Marks:50

SOFTWARE ENGINEERING

Answer all the following

1	Software myths are erroneous beliefs about software and the process that is used to build. Give different types of myths and add at least three new myths in each category.	5
2	A number of different approaches to software process assessment and improvement have been proposed over a few decades. Explain?	5
3	One of the process model is particularly useful when staffing is unavailable for a complete implementation by the business deadline that has been established for the project. Which process model is it.	5
4	Requirements engineering encompasses seven distinct tasks. Explain	5
5	Guidelines for conducting formal technical review must be established in advance distributed to all the reviewers agreed upon and then followed. Give the minimum set of guidelines for formal technical reviews.	5
6(a)	Give seven project factors that can be considered when planning the structure of software engineering teams.	2.5
(b)	Give four organizational paradigms for software engineering teams.	2.5
7	How does a manager act to avoid the problems. Reel suggests a five-part commonsense approach to software projects. Explain them?	5
8	Consider a complex project which has a broader scope and more significant business impact. In such projects what are the work tasks required for the communication.	5
9	Although there are many reasons why software is delivered late. Explain the main root cause for the projects of late delivery.	5
10	Discuss different software risks in detail.	5

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

End-SEM EXAMINATION, December 2018

II MCA, I Semester

CS6373 – Advanced Web Technologies (06.12.2018)

Maximum Marks: 50 Time Duration: 3 Hours

Attempt all the questions.

Q.1. (a) What is the use of Document.ready in Jquery ? (1)

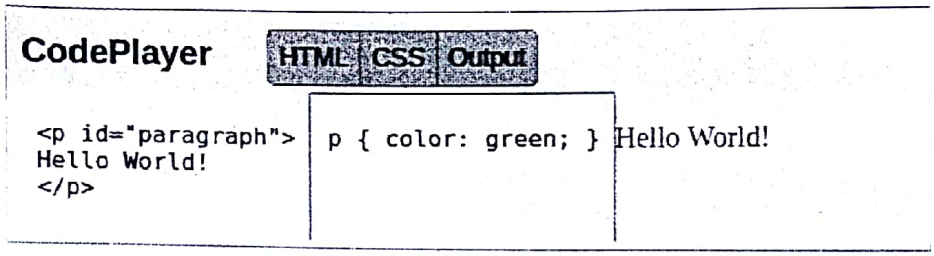
(b) Write the equivalent jquery and javascript code for the following uses-cases: (1*3=3)

(i) Selecting an html element by ID, consider the ID name as `elemID'

(ii) Selecting all the paragraph elements on the page

(iii) Select all elements having a CSS class named as dummy

Q.2. Write a code-player as shown below, having three areas to write html code, css-code and to display output: (2+2+1=5)



Consider following cases while writing your code.

(a) Write the entire code in proper syntax and with working functionality.

(b) Highlight all three buttons whenever any mouse-click (blue) and mouse-hover (gray) occur.

(c) Update the output in Output-area instantly (changes should be reflected immediately).

Q.3. (a) What do you mean by a well-formed and valid XML document? (2)

(b) Write about XML characteristics and its usage. (1.5+1.5=3)

(c) Write down the rules for naming an element and attribute of an XML document. (2)

Q.4. (a) What are the advantages and disadvantages of document type definition (DTD)? (3)

(b) Write the code for `family.dtd' considering following XML document valid. (2)

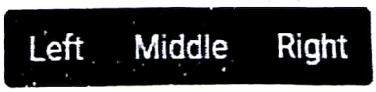
```
<?xml version="1.0" ?>
 <!DOCTYPE family SYSTEM "family.dtd">
 <family>
   <person name="Joe Miller" gender="male"
           type="father" id="123.456.789"/>
   <person name="Josette Miller" gender="female"
           type="girl" id="123.456.987"/>
 </family>
```

Q.5. (a) Why are containers being used in bootstrap? Explain the available container classes. (2)

(b) What should be done in order to make grid responsive, explain with respect to all sizes? (2)

(c) Explain the working of navbar component in bootstrap. Also, mention any four subcomponents of navbar. (2+2=4)

(d) Write the code to display following button-group (gray color) in your webpage. (2)



Q.6. (a) What is simple and complex element in XSD? Give examples for both. (0.5+1.5=2)
(b) Write about any four XSD restrictions with example. (2+1=3)
(c) What is XSD indicators (3)

Q.7. (a)Why mail() function is used in php? Write its syntax and describe all the parameters passed. (1+2=3)
(b)Discuss any four superglobal variables available in php. (2)

Q.8. (a) Explain XMLHttpRequest object and its properties used in AJAX. (1+2=3)
(b) Write a javascript code to load following json data: (3)

```
{
    "book": [
    {
       "id":"01",
       "language": "Java",
       "edition": "third",
       "author": "Herbert Schildt"
    },
    {
       "id":"07",
       "language": "C++",
       "edition": "second"
       "author": "E.Balagurusamy"
    }]
}
```

(i) Consider loading the data from a server loaction.
(ii) Display the `language` and `author` of `book` in web page from loaded json data.