

AIKTC/KRRC/SoET/ACKN/QUES/2021-22/

Date: 02/08/2022

School: SoET-REV. C-Scheme Branch: COMP. ENGG. SEM: VIII

To,
Exam Controller,
AIKTC, New Panvel.

Dear Sir/Madam,

Received with thanks the following ~~Semester/Unit~~ [✓] ~~Test-I/Unit Test-II~~ [✓] (Reg./ATKT) question papers from your exam cell:

Sr. No.	Subject Name	Subject Code	Format		No. of Copies
			SC	HC	
1	Human Machine Interaction	CPC801			
2	Distributed Computing	CPC802		✓	
3	MP	CPC803		✓	
4	Elective-III Natural Language Processing	CPE803X		✓	
5					
6					

Note: SC – Softcopy, HC - Hardcopy

(Shaheen Ansari)
Librarian, AIKTC

University of Mumbai**Examinations - Summer 2022**

Program: Computer Engineering

Curriculum Scheme: Rev 2016

Examination: BE Semester VIII

Course Code: CSC802 and Course Name: Distributed Computing

Time: 2 hour 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Resources and clients transparency that allows movement within a system is called-
Option A:	Mobility transparency
Option B:	Concurrency transparency
Option C:	Performance transparency
Option D:	Replication transparency
2.	In Data centric model-
Option A:	results of only read operations can be replicated to various stores located nearby immediately
Option B:	results of only write operations can be replicated to various stores located nearby immediately
Option C:	results of read and write operations can be replicated to various stores located nearby immediately
Option D:	results of read and write operations can be replicated to all stores
3.	Following is a type of failure that usually can occur in RPC systems-
Option A:	The server crashes after receiving a request and client cannot locate the server
Option B:	Client Cannot Locate the Server
Option C:	The server crashes after receiving a request
Option D:	Server crashes
4.	Which of the following algorithm is Token Based Algorithm for Mutual Exclusion
Option A:	Lamport Algorithm
Option B:	Ricart-Agrawala's Algorithm
Option C:	Suzuki-Kasami's Broadcast Algorithms
Option D:	Maekawa's Algorithm
5.	What is task assignment approach?
Option A:	in which each process is viewed as an individual task.
Option B:	in which each process is viewed as a collection of related tasks
Option C:	in which each process is viewed as a collection of distinct tasks
Option D:	in which each process is viewed as a coordinator of other's tasks
6.	In a distributed file system, mapping between logical and physical objects is-
Option A:	Transparency
Option B:	Client interfacing
Option C:	Migration
Option D:	Naming

7.	In a distributed file system, when a file's physical storage location changes
Option A:	file name need to be changed
Option B:	file name need not to be changed
Option C:	file's host name need to be changed
Option D:	file's local name need to be changed
8.	Which of the following is concurrency transparency
Option A:	Hide differences in data representation and how a resource is accessed
Option B:	Hide that a resource may be shared by several competitive users
Option C:	Hide that a resource may be moved to another location while in use
Option D:	Hides that the resource has multiple copies
9.	In the Bully algorithm, process which is elected as the coordinator is the one having –
Option A:	Lowest Timestamp value
Option B:	Lowest process ID
Option C:	Highest timestamp value
Option D:	Highest process ID
10.	Which of the following is the Passive Server Physical Clock Synchronization algorithm
Option A:	Berkley's Algorithm
Option B:	Cristian's Algorithm
Option C:	Lamport's Algorithm
Option D:	Bully Algorithm

Q2.	
A	Solve any Two (5 marks each)
i.	Discuss in brief the different architectural models in Distributed System?
ii.	What is coordinator process? Explain algorithms used for the selection of coordinator.
iii.	Explain desirable features of Global Scheduling Algorithm
B	Solve any One (10 marks each)
i.	What is the need for Code Migration? Explain the role of Process to resource and Resource to Machine binding in Code Migration.
ii.	Write short note on File caching schemes.

Q3.	
A	Solve any Two 5 marks each
i.	Discuss the different issues and steps involved in a good Load Balancing algorithm.

ii.	What are different Data Consistency Models? (Any 5)
iii.	What are physical clocks? Explain any one Physical Clock Synchronization Algorithm.
B	Solve any One (10 marks each)
i.	Explain Hadoop distributed file system.
ii.	Explain Different issues and goals related to design of Distributed System. Explain Transparency in detail.

Q4.	
A	Solve any Two (5 marks each)
i.	Describe different types of failure models.
ii.	Differentiate between NOS, DOS and Middleware in the design of a distributed systems?
iii.	Explain how Monotonic Read consistency model is different from Read your Write consistency model. Support your answer with suitable example.
B	Solve any One (10 marks each)
i.	Define remote procedure call (RPC)? Describe the working of RPC in detail.
ii.	Differentiate between Token-based algorithm and Non-Token-based algorithm. Explain in detail Raymond's Tree-Based algorithm.

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	8086 supports _____ software Interrupts
Option A:	2
Option B:	64K
Option C:	256
Option D:	8
2.	In 8086 size of pre fetch queue is
Option A:	6 Byte
Option B:	4 Byte
Option C:	4 Bit
Option D:	2 Byte
3.	The instruction that unconditionally transfers the control of execution to the specified address is
Option A:	JMP
Option B:	IRET
Option C:	RET
Option D:	CALL
4.	In PUSH instruction, after each execution of the instruction, the stack pointer is
Option A:	incremented by 1
Option B:	decremented by 1
Option C:	incremented by 2
Option D:	decremented by 2
5.	_____ stores the bits required to mask the IR lines of 8259
Option A:	ISR
Option B:	IMR
Option C:	IRR
Option D:	PR
6.	The bus is available when the DMA controller receives the signal
Option A:	HRQ
Option B:	HLDA
Option C:	DACK
Option D:	INTA
7.	Which control registers of 80386 are associated with paging mechanism?
Option A:	CR0, CR2, CR3
Option B:	CR1, CR2, CR3
Option C:	CR0, CR1 CR2

Option D:	CR0, CR1 CR2,CR3
8.	How many flags are active in flag register of 80386?
Option A:	9
Option B:	12
Option C:	13
Option D:	10
9.	What lead to the development of MESI and MEI protocol ?
Option A:	Cache size
Option B:	Cache Coherency
Option C:	Bus snooping
Option D:	Number of caches
10.	Hyperthreading uses the concept of
Option A:	Simultaneous multithreading
Option B:	Distributed decoding
Option C:	Multiple switching
Option D:	Pipelining

Q2	Solve any Two Questions out of Three 10 marks each
A	Explain and draw IVT? Differentiate between hardware and software interrupts?
B	Explain descriptors and paging mechanism in protected mode of 80386 ?
C	Explain the Initialization command words (ICWs) and Operational command words(OCWs) of the 8259 PIC.

Q3	Solve any Two Questions out of Three 10 marks each
A	Write an 8086 assembly language program to print the flag registers
B	Design 8086 microprocessor based system working in minimum mode with the following specifications. I) 8086 microprocessor working at 8 MHz. II) 16 KB EPROM using 8K devices. Clearly show memory map with address range. Draw a neat schematic.
C	Explain protection mechanism of 80386 with diagram.

Q4	Solve any Two Questions out of Three	10 marks each
A	Draw and explain timing diagram of memory read and memory write operation in minimum mode.	
B	Explain Pentium 4 Net burst micro architecture and write a note on hyperthreading	
C	Explain Integer and Floating-Point Pipeline of Pentium.	



Course Code: **DLO8012**
 Time: 2 hours 30 minutes

Course Name: **Natural Language Processing**
 Max. Marks: 80

Q1.	Choose the correct option for the following questions. All the questions are compulsory and carry equal marks
1.	What does morphological disambiguation mean?
Option A:	It is a process to check semantics in the given context
Option B:	It is a process of choosing the proper morphological interpretation of a token in a given context.
Option C:	Process of defining only rules.
Option D:	Process of selecting the algorithm
2.	_____ is a process of assigning a corresponding part of speech like a noun, verb, adverb and adjective to each word in a sentence.
Option A:	Stemming
Option B:	Lemmatization
Option C:	Part-of-speech tagging
Option D:	Parsing
3.	The process of deciding what pronouns and other noun phrases refer to is known as
Option A:	Inferable
Option B:	Coreference Resolution
Option C:	Reflexive
Option D:	Verb Semantics
4.	Eesk algorithm
Option A:	converts words to vectors
Option B:	finds comparison between two words
Option C:	measures overlap between sense definitions for all words in context
Option D:	check for similarity between words in context
5.	Which of the following is an example of "hyponym-hypernym" semantic relationship?
Option A:	Car-Vehicle
Option B:	Car-Wheel
Option C:	Wheel-Car
Option D:	Car-Ford
6.	The stemming algorithm is used to
Option A:	Form complex words from base form
Option B:	Generates the parse tree of a sentence
Option C:	Check meaning of a word in dictionary
Option D:	Reduce inflected form of a word to a single base form

IR@AIKTC-KRRC	which of the summarization technique, the summary contains the sentences from the given document only?
Option A:	Extractive Summarization
Option B:	Abstractive summarization
Option C:	Mixed Summarization
Option D:	Copied summarization
8.	The ambiguity in the sentence - Rima went to Gauri. She said, "I am tired."
Option A:	Syntactic Ambiguity
Option B:	Semantic Ambiguity
Option C:	Lexical Ambiguity
Option D:	Referential Ambiguity
9.	Pragmatic refers to
Option A:	Literal meaning
Option B:	Intended meaning
Option C:	Structural meaning
Option D:	Wordnet dictionary meaning
10.	Natural Language Generation does not involve the following task
Option A:	Producing meaningful phrases and sentences
Option B:	Mapping the given input in natural language into useful representations.
Option C:	Retrieving the relevant content from the knowledge base.
Option D:	Mapping sentence plan into sentence structure

Q 2	Solve any Two Questions out of Three (20 Mark)
A	What is information retrieval and machine translation in applications? Give a brief answer on both.
B	What is Word Sense Disambiguation? Illustrate with an example how the Dictionary-based approach identifies the correct sense of an ambiguous word.
C	Explain derivational and inflectional morphology in detail with suitable example

Q 3	Solve any Two Questions out of Three (20 Mark)
A	Why it is important to preprocess text data in natural language? Explain in detail the steps of preprocessing with examples.
B	What are the five types of referring expressions? Explain with example
C	Write Note on Text Summarization

Q 4	Solve any Two Questions out of Three (20 Mark)
A	What is a language model? Explain the N-gram model
B	How HMM is used for POS tagging? Explain in detail.
C	What is lexicon, lexeme and Explain the different types of relations that hold between lexemes with example