

**DATA STRUCTURES USING 'C'[15CS41T]**

Sl No.	Question s	Marks	Year
<b>UNIT – 1 [Pointers and Dynamic Memory Allocation]</b>			
1.	Explain pointer and show how to declare and initialize a pointer	5	May 2017/ Dec 2017/May 2019
2.	Write a C program to create a dynamic array.	5	May 2017
3.	Give the difference between call-by-value and call-by-reference methods.	5	Dec 2017/ May 2019/Nov 2019
4.	Explain pointers and arrays with example.	5	Dec 2017
5.	Illustrate pointer arithmetic with examples.	10	May 2017
6.	List and explain dynamic memory allocation functions in C.	10	Dec 2017/May 2019
7.	Discuss the use of address operator and indirection operator with pointers.	5	May 2018/Nov 2019
8.	Summarize the advantages of dynamic memory allocation in C language.	5	May 2018
9.	Write a C program to find the smallest element in an array of n elements using pointers.	10	May 2018
10.	Explain address operator and indirection operator with example.	5	Dec 2018/May 2019
11.	Define pointer. List any two advantages and disadvantages of pointer.	5	Dec 2018
12.	Write a 'C' program to illustrate the use of function pointer.	10	Dec 2018/Nov 2019
13.	Explain dynamic memory allocation functions malloc() and calloc().	5	Nov 2019
<b>UNIT – 2 [Files]</b>			
1.	Explain different file opening modes.	5	May 2017/Dec 2017
2.	Write a C program to copy one file to another using command line arguments.	5/10	May 2017/ May 2018/ May 2019
3.	Define file? Explain how to open and close a file.	5	Dec 2017
4.	List and explain Input/Output functions of file.	10	Dec 2017
5.	Explain how to handle errors during file I/O operations.	5	May 2018/ May 2019
	Explain error handling in files.	5	Nov 2019
6.	Explain formatted input and output functions of file.	5	Dec 2018
7.	a) Explain with syntax fopen() and fseek() functions. b) Write a program to count the number of characters in a given file.	10	Dec 2018
8.	Explain fseek() and ftell() functions with syntax and example.	5	May 2019
9.	Write a C program to count the number of characters in a given file.	5	Nov 2019
10	Explain the following functions with their syntax and example: (i) ftell() (ii) fseek() (iii) fopen() (iv) fprintf() (v) fscanf()		
<b>UNIT – 3 [Introduction to data structures &amp; Linked Lists]</b>			
1.	Define data structure and give the detailed classification of data structures.	5	May 2017/Dec 2017/ May 2019/Nov 2019
2.	Compare singly linked list with doubly linked list.	5	May 2017
3.	Write the advantages & disadvantages of linked list.	5	Dec 2017/May 2018 /Dec 2018

4.	Write C functions to insert a node at the beginning and to delete a node from the end of linked list.	10	May 2017
5.	Write the C functions to perform insert at end and display operations on singly linked list.	10	Dec 2017/May 2018/ May 2019
6.	Write 'C' functions to insert a node at the end and to delete a node from the beginning of a linked list.	10	Dec 2017/ May 2018/Dec 2018
7.	Distinguish between linear and non-linear data structures.	5	May 2018
8.	Explain primitive data types.	5	May 2018
9.	Explain circular linked list and doubly linked list.	10	May 2018/Dec 2018/Nov 2019
10.	Explain any five operations on data structures.	5	Dec 2018
	List and explain the operations on data structures.	10	Nov 2019

11.	Diagrammatically how do you represent Singly Linked List? Explain.	5	Dec 2018
12.	List the applications of linked list.	5	Dec 2018
13.	Explain any two types of linked list.	5	May 2019
<b>UNIT – 4 [ Stack &amp; Queues]</b>			
1.	Define stack. Explain how to represent a stack in C.	5	Dec 2017/Dec 2018
	Define stack. Explain how to represent a stack in C using arrays.	5	Nov 2019
2.	Write C functions and an algorithm to implement PUSH and POP operations of stack.	10	May 2017/ Dec 2017/ May 2018/ Dec 2018
	Write algorithm to PUSH and POP operations of a stack.	10	May 2019/Nov 2019
3.	Write a program to implement queue in C using linked list.	10	May 2017
4.	Explain the insertion and deletion operation on circular queue with neat diagram and example.	10	May 2017
5.	Write a C program to implement queue in C.	10	Dec 2017
6.	Define priority queue. Write the C implementation of priority queue.	10	Dec 2017
7.	Explain queue and its sequential representation.	5	May 2018
8.	Write a C program to implement queue using arrays.	10	May 2018/Dec 2018
9.	Explain with figure: a) Circular queue b) Dequeue	10	Dec 2018/May 2019
10.	Define Queue: How to represent Queue in 'C' using array.	5	May 2019
11.	Explain: (i) Priority queue (ii) Circular queue	10	Nov 2019
<b>UNIT – 5 [ Tree]</b>			
1.	Explain the following with respect to binary tree a) root b) Parent c) degree of node d) subtree e) Strictly binary tree f) Perfect binary tree g) balanced binary tree g) Leaf node h) Path i) Sibling j) Binary tree k) Complete binary tree l) Depth of a tree	5	May 2017/May 2019/Nov 2019
2.	Write C representation of a node in a binary tree.	5	May 2017
3.	Explain strictly binary tree & complete binary tree with example..	5	Dec 2017/May 2018/ May 2019
4.	Explain degree of a tree and depth of a tree with an example.	5	Dec 2018
5.	Explain binary tree traversal techniques with example.	10	May 2017/ May 2018/ Dec 2018/ May 2019
	Define tree traversal. List and explain types of tree traversals.	10	
6.	Write a program to implement binary tree traversal.	10	Dec 2017
7.	Develop a recursive algorithm to traverse a binary tree in the following order i.e., Inorder, Preorder & Postorder.	10	Dec 2017
8.	Explain binary tree and its representation.	5	May 2018
9.	Construct the binary tree for the following data: 14,3,8,11,16,19,7,2,10,18	5	Dec 2018
11.	Diagrammatically how do you represent Singly Linked List? Explain.	5	Dec 2018
12.	Construct a binary tree of the following values and traverse the tree in preorder, inorder and post order: 46,76,36,26,16,56,96	10	Nov 2019

**UNIT – 6 [Sorting, Searching and Application of Data Structures]**

1.	Explain the concept of selection sort.	5	May 2017
2.	Write an algorithm to convert an infix expression to postfix form.	10	May 2017/Dec 2017
3.	List the applications of queues & linked list.	10	May 2017
4.	a) List the advantages & disadvantages of Insertion sort. b) Write a C program to implement linear search.	5/10	Dec 2017/May 2018/ Dec 2018
	Write a C program to implement linear search technique.	5	Nov 2019

5.	Discuss recursion and properties of recursive definition.	5	May 2018
6.	Explain the concept of binary search.	5	May 2018
	Explain with an example, working of Binary search technique.	10	May 2019
7.	Write a C program to implement bubble sort method/technique.	10	May 2018/ May 2019/ Nov 2019
8.	Explain with an example Quick Sort Method.	10	Dec 2018
9.	Give the postfix and prefix forms for the following expression: A\$B*C-D+E/F/G+H	6	Dec 2018
10.	(a) List the applications of stack.	4	May 2019/ Nov 2019
	(b) Convert the following expression to prefix and postfix (a+b) * (d-f) OR Convert (a+b) * (c-d) to its prefix form.	6	
11.	List the applications of linked list	5	Dec 2018
12.	What is recursion? Write a recursive C program to compute GCD of two numbers.	10	Nov 2019

**OOP WITH JAVA [15CS42T]**

Sl No.	Questions	Marks	Year
<b>UNIT – 1 [ Introduction to Java ]</b>			
1.	List any five benefits/advantages of OOP.	5	May 2017/ May 2018/ May 2019/Nov 2019
2.	Write and explain simple Java program	5	May 2017
3.	Describe the general form of Java class definition	5	May 2017// May 2018
4.	Explain the features of Java	10	May 2017/ Dec2017/ Dec 2018/May 2019
5.	Define the following: Data abstraction, Data encapsulation, Polymorphism	5	Dec 2017/Dec 2018
6.	Explain Java program structure with diagram and example	10	Dec 2017/ May2018/ Dec 2018
	Explain the different sections of java program structure.	5	May 2019
7.	Explain Java virtual machine.	5	May 2018
8.	Write a simple Java program illustrate use of mathematical functions.	5	Nov 2019
9.	Discuss command line arguments in Java with an example program.	10	Nov 2019
<b>UNIT – 2 [ Classes, Objects and Methods; String and StringBuffer classes ]</b>			
1.	Compare string class with string buffer class	5	May 2017
2.	Explain with an example the concept of method overloading	10	May 2017/ Dec 2017/ May 2018/ Dec 2018/May 2019
3.	Illustrate with an example program to implement an array of objects	10	May 2017
4.	Compare arrays and vectors	5	Dec 2017
5.	Explain any five string methods	5/10	Dec 2017/May 2019
	<b>OR</b> Define string. Explain any four string handling functions with syntax and example	10	May 2018/Dec 2018
6.	Explain class definition with fields and methods declaration	10	Dec 2017/ Dec 2018/Nov 2019
7.	a. Define inheritance, list various forms of inheritance b. Describe use of final keyword	5/10	Dec 2017/ May 2018/May 2019
8.	Explain constructors. Indicate special properties of constructors.	5	May 2018/Dec 2018/Nov 2019
9.	Write a note on Wrapper classes	5	May 2018
10.	With an example, explain accessing of class members.	5	Dec 2018
11.	Give definition for object and classes with example.	5	May 2019
12.	Explain final classes and finalise methods.	5	May 2019
13.	Write a program to illustrate default and parameterized constructor.	10	May 2019
14.	Explain any five string buffer methods.	5	Nov 2019
15.	Write a program to sort N elements of an array.	10	Nov 2019
16.	Write a program to illustrate Wrapper classes.	10	Nov 2019
<b>UNIT – 3 [ Interface: Multiple Inheritance ]</b>			
1.	Describe the use of keyword super	5	May 2017
2.	Differentiate between abstract class and an interface	5	May 2017
3.	Write Java program/a program to implement interfaces.	10	May 2017/ Dec 2017/Nov 2019
4.	Differentiate between classes and interfaces	5	Dec 2017/ May 2018/May 2019
5.	Write a Java program to implement the use of multiple inheritance using interface.	10	May 2018
	With an example, explain how to support multiple inheritance.	10	Dec 2018/May 2019

6.	Describe how do you implement interface in different forms.	5	Dec 2018
7.	Write the general syntax of creating an interface and explain.	5	Nov 2019
<b>UNIT – 4 [ Packages: Putting classes together ]</b>			
1.	Show how to create a package	5	May 2017/ Dec 2017
	Discuss how to create and implement a package.	5	Dec 2018/Nov 2019
2.	Explain Java API packages OR List and explain Java API packages. Mention uses of each package	10	May 2017/ Dec 2017/ May 2018/ Dec 2018/Nov 2019
3.	Write the steps for creating user-defined package. Give an example	10	May 2017/ May 2018
4.	write a program to sub classing an imported class	10	Dec 2017
5.	Explain how to add a class to a package	5/10	May 2018/May 2019
6.	Write a program to use inbuilt packages to demonstrate basic arithmetic operators.	10	Dec 2018
7.	Discuss the various levels of access protection available for packages.	5	May 2019/Nov 2019
8.	Describe the term static import.	5	May 2019
	Explain static import and how it is useful.	5	Nov 2019

<b>UNIT – 5 [ Multithreaded Programming ]</b>			
1.	Explain how to create thread by implementing runnable interface	5	May 2017
2.	Develop a program to implement concept of threading by extending thread class	10	May 2017/ Dec 2018/May 2019
3.	Explain how to assign priorities to thread with an example	10	May 2017/ Dec 2017
4.	Explain life cycle of threads.	10	Dec 2017/ May 2018/May 2019/Nov 2019
5.	Write a program to create threads by implementing runnable interface	10	Dec 2017/ May 2018
6.	Write a program to illustrate the use of yield( ), stop( ) and sleep( ) methods for threads in Java	10	May 2018/Dec 2018
7.	Explain the different methods of creating threads.	10	Dec 2018
8.	Compare multithreading and multitasking.	5	May 2019
9.	Explain how to create thread by extending thread class with an example.	5	Nov 2019
10.	Explain Thread creation by implementing runnable interface with an example.	10	Nov 2019
<b>UNIT – 6 [ Managing errors and Exceptions ]</b>			
1.	Illustrate with example try and catch block	5	May 2017
2.	Illustrate different types of errors in Java program with example OR List different types of compile time errors and run-time errors	5/10	May 2017/ Dec 2017/ May 2018/Nov 2019
3.	Write program to implement exception handling by using predefined exception class	10	May 2017
4	Explain syntax of exception handling  Discuss exception handling mechanism.	5 5	Dec 2017/ May 2018/ Dec 2018/Nov 2019 May 2019
5.	Write program for throwing your own exception	10	Dec 2017
6.	Explain user defined exceptions with example	5	May 2018
7.	Write a program to implement the use of multiple catch( ) statement	5/10	May 2018/ Dec 2018/May 2019
8.	Define exception and explain finally block .When and how it is used with a suitable example.	10	Dec 2018
9.	Explain nested try statements with an example.  Write a program to illustrate Nested Try statement.	5 10	May 2019 Nov 2019

**OPERATING SYSTEM [15CS43T]**

<b>I No.</b>	<b>Questions</b>	<b>Marks</b>	<b>Year</b>
<b>UNIT – 1 [Introduction to Operating Systems]</b>			
1.	Explain OS with its functions.	5	Dec 2017/May 2018
2.	Explain the peer to peer computing.	5	Dec 2017
3.	Discuss the time sharing system.	5	May 2017/Dec 2018/Nov 2019
4.	Write a note on client-server computing	5	May 2017/Nov 2019
5.	Summarize the activities of OS with respect to process management and memory management.	10	May 2017/Dec 2017
	Summarize the activities of OS with respect to process management and storage management.	10	May 2019
6.	Explain the advantages of multi-processor system.	10	May 2017
7.	List the advantages and disadvantages of multiprogramming system.	5	May 2018
8.	Explain the computer system architecture.	10	May 2018
	Define operating system. Explain the computer system architecture.	10	May 2019
9.	Explain special purpose systems.	10	Dec 2018
10.	Explain the different operating system operations.	10	Dec 2018/Nov 2019
11.	Explain distributed operating system.	5	May 2019
<b>UNIT – 2 [Process Management]</b>			
1.	Describe different scheduling criterias.	5	Dec 2017/May2018/ Dec 2018/May 2019/Nov 2019
2.	Explain the contents of PCB with neat diagram.	5	May 2017/Dec 2017/ May 2018/ Dec 2018/Nov 2019
3.	Define Process. Draw and explain the state transition diagram of process.	5	May 2017/May 2018/ Dec 2017
	Draw and explain the state transition diagram of process.	5	May 2019
4.	Explain IPC and the models associated with it using diagram.	5/10	Dec 2017/Dec 2018/Nov 2019



**OPERATING SYSTEM [15CS43T]**

5. Consider following processes with burst times arrived in order P1,P2, P3, P4 at time 0.
- (a) Draw Gantt chart for FCFS and SJF
  - (b) Calculate waiting and turn around time in FCFS and SJF
  - (c) Calculate average waiting time in SJF andFCFS

Process	Burst Time
P1	10
P2	1
P3	2
P4	1

10

Dec 2017

Consider following processes with burst times arrived in order P1,P2, P3, P4 at time 0.

- (a) Draw Gantt Chart for FCFS and priority
- (b) Calculate waiting and turn around time in FCFS and priority.
- (c) Calculate average waiting time in FCFS andpriority.

Process	Burst Time	Priority
P1	10	3
P2	13	1
P3	3	3
P4	8	4

10

May 2017/May 2018

Given

Process	Burst Time
P1	10
P2	1
P3	2
P4	1

10

Nov 2019

The processes are assumed to have arrived in order P1,P2,P3,P4 at time 0.

- (a) Draw Gantt Chart for FCFS and SJF scheduling algorithm.
- (b) Calculate the average waiting time for FCFS and SJF algorithm.
- © Calculate the turnaround time for FCFS and SJF algorithm.

	<p>Compute the average waiting time for the list of processes given in the table using FCFS &amp; SJF CPU-scheduling algorithms with Gantt Chart. Processes enter in the order P<sub>1</sub>,P<sub>2</sub>,P<sub>3</sub>,P<sub>4</sub> at time 0.</p> <table border="1"> <thead> <tr> <th>Process</th> <th>Burst Time</th> </tr> </thead> <tbody> <tr> <td>P<sub>1</sub></td> <td>06</td> </tr> <tr> <td>P<sub>2</sub></td> <td>04</td> </tr> <tr> <td>P<sub>3</sub></td> <td>07</td> </tr> <tr> <td>P<sub>4</sub></td> <td>03</td> </tr> </tbody> </table> <p>Consider the following set of process with the length of the CPU burst time given in milliseconds.</p> <table border="1"> <thead> <tr> <th>Process</th> <th>Burst time</th> <th>Priority</th> </tr> </thead> <tbody> <tr> <td>P<sub>1</sub></td> <td>10</td> <td>3</td> </tr> <tr> <td>P<sub>2</sub></td> <td>1</td> <td>1</td> </tr> <tr> <td>P<sub>3</sub></td> <td>2</td> <td>4</td> </tr> <tr> <td>P<sub>4</sub></td> <td>1</td> <td>5</td> </tr> <tr> <td>P<sub>5</sub></td> <td>5</td> <td>2</td> </tr> </tbody> </table> <p>The processes are assumed to have arrived in the order P<sub>1</sub>,P<sub>2</sub>,.....,P<sub>5</sub> .all at time 0.</p> <p>(i) Draw the Gantt chart for FCFS and PRIORITY scheduling algorithms.</p> <p>(ii) Calculate the waiting time of each process for FCFS and PRIORITY scheduling algorithms.</p> <p>(iii) Calculate the average waiting time for FCFS and PRIORITY scheduling algorithms.</p>	Process	Burst Time	P <sub>1</sub>	06	P <sub>2</sub>	04	P <sub>3</sub>	07	P <sub>4</sub>	03	Process	Burst time	Priority	P <sub>1</sub>	10	3	P <sub>2</sub>	1	1	P <sub>3</sub>	2	4	P <sub>4</sub>	1	5	P <sub>5</sub>	5	2	10	Dec 2018
Process	Burst Time																														
P <sub>1</sub>	06																														
P <sub>2</sub>	04																														
P <sub>3</sub>	07																														
P <sub>4</sub>	03																														
Process	Burst time	Priority																													
P <sub>1</sub>	10	3																													
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P <sub>4</sub>	1	5																													
P <sub>5</sub>	5	2																													
		10	May 2019																												
6.	Compare long-term and short-term scheduler.	5	May 2019																												
<b>UNIT – 3 [Synchronization and Deadlocks]</b>																															
1.	Explain three requirements for the solution to critical section problem.	5	May 2017/May2018																												
2.	Define Deadlock. Explain the necessary condition for Deadlock.	5	May2017/Dec2017/ May2018/Dec 2018/ May 2019																												
3.	Explain Deadlock prevention.	5	Dec 2017																												
4.	Explain resource allocation graph with and without deadlock.	10	Dec 2017																												
	With an example,explain resource-allocation graph with and without deadlock.	10	Dec 2018/May 2019																												
5.	How to detect and recover from deadlock.	10	May 2017																												
6.	Explain the Banker's algorithm.	10	May 2018																												
7.	Describe semaphores briefly.	5	Dec 2018/May 2019/Nov 2019																												
8.	How deadlock can be detected? Explain.	10	Nov 2019																												
9.	How can a deadlock be recovered? Explain.	5	Nov 2019																												
10.	Briefly describe resource allocation graph.	5	Nov 2019																												

<b>UNIT – 4 [Memory Management Strategies]</b>			
1.	Explain first fit, best fit and worst fit memory allocation strategies.  Explain first fit and best fit memory allocation strategies.	5  5	May 2017,Dec 2017,May 2018  Nov 2019
2.	(a) Explain swapping with diagram. (b) Define Fragmentation. Differentiate between internal and external fragmentation.  (a) Explain swapping technique with a neat diagram. (b) Briefly explain fragmentation and its types.	5/10 5  10	Dec 2017/ Dec 2018/Nov 2019 Nov 2019  May 2019
3.	Explain page replacement with neat diagram.	5/10	May 2017/Nov 2019
4.	Explain hardware implementation of page table with neat diagram.	10	May 2017/May2018/ Dec 2018
5.	Explain segmentation with its hardware support.	10	May 2017/May2018 /May 2019/Nov 2019
6.	Explain the contiguous memory allocation with neat diagram.	10	Dec 2018
7.	Differentiate between physical and logical address space.	5	May 2019
<b>UNIT – 5 [Virtual Memory Management ]</b>			
1.	Explain virtual memory.	5	May 2017/Nov 2019
2.	Explain memory allocation using paging.	10	Dec 2017
3.	Consider string- 7,0,1,2,0,3,4,2,3,0,3,2,1,2,0,1,7,0,1 Calculate faults using (a) LRU (b) FIFO (c)Optimal  Consider the following reference string: 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6 How many page fault would occur for the following page replacement algorithm assuming 4 page frames? (i) LRU (ii) FIFO (iii) Optimal page replacement  Consider the following reference string: 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 How many page faults would occur for the following page replacement algorithm assuming 3 page frames? (i) FIFO page replacement (ii) Optimal page replacement  Consider the following reference string: 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1 Find the number of page faults using the following page replacement algorithm (i) LRU (ii) FIFO	10  10  10  10	May 2017/Dec 2017  Dec 2018  May 2019  Nov 2019
4.	Write a note on copy-on-write.	5	May 2018/Dec 2018
5.	Write a note on the following page replacement algorithm- (a) FIFO (b) LRU	10	May 2018
6.	Explain the Demand page memory management with diagram.	5/10	May 2018/ Dec 2018/May 2019/Nov 2019
7.	Explain the steps for handling page fault with a neat diagram.	10	May 2019
<b>UNIT – 6 [ File System]</b>			
1.	Briefly explain the operation that can be performed on the files.	5	May 2017/Dec2017/ May 2018/May

			2019/Nov 2019
2.	List common file types with extensions.	10	Dec 2017
	Explain common file types with their extension and functions.	10	Dec 2018
3.	Define file and explain different file attributes.	10	May 2017/May 2019
4.	Explain single and two-level directory with diagram.	10	May 2017/Dec2017/ Dec 2018/May 2019
5.	Differentiate between sequential access and direct access methods.	10	May 2018
6.	Explain tree structures directory and acyclic graph directory with a neat diagram.	10	May 2018
7.	What are the different operations that can be performed on a directory? Explain.	5	Dec 2018/Nov 2019
8.	Explain sequential access and direct access methods.	10	Nov 2019

Question Bank – Unit Wise

**PROFESSIONAL ETHICS AND INDIAN CONSTITUTION [15CS44T]**

Sl No.	Questions	Marks	Year
<b>UNIT – 1 [Human Values]</b>			
1.	List the Benefits of Empathy.	5	May 2017
2.	Distinguish between ‘caring’ and ‘sharing’	5/10	May 2017/May 2019
3.	Define ‘corporate responsibility’ and ‘corporate accountability’.	5	May 2017
4.	List the types of Values. Write an example of each.	10	May 2017/Dec 2018/Nov 2019
5.	Explain Service learning and discuss its components.	10	May 2017
6.	Explain types of Civic virtues.	5	May 2018/ Dec 2018/May 2019
7.	Define Self-confidence. State the factors that shape self confidence	5	May 2018
8.	List the difference between Morality and Ethics.	5/10	May 2018/ Dec 2018/May 2019
9.	Why do people behave unethically?	10	May 2019
10.	Explain what should one do or not do live peacefully.	5	Nov 2019`
11.	Define: (a) Self Interest (b) Self Respect	5	Nov 2019
12.	List the types of virtues. Explain with an example for each.	10	Nov 2019
13.	Describe the terms Casual,Moral and Legal responsibility.	10	Nov 2019
<b>UNIT – 2 [Engineering Ethics]</b>			
1.	Explain briefly ‘Institutional Authority’ and ‘Expert Authority’.	5	May 2017
	Describe institutional authority and expert authority.	10	Dec 2018
2.	Explain the meaning of ‘Profession’, ‘Professional’, and ‘Professionalism’. List any four characteristics of Professionalism.	5/10	May 2017/May 2018/Nov 2019
	State the five characteristics of Professionalism.	5	Dec 2018
	Explain the meaning of ‘Profession’, ‘Professional’, and ‘Professionalism’.	10	May 2019
3.	Differentiate between (a) Autonomy v/s Authority (b) Consensus v/s Controversy (c) Self-respect v/s Self-esteem (d) Molarity v/s Ethics (e) Normative and Descriptive senses of Engineering Ethics (f) Micro Ethics and Macro Ethics	10	May 2017
4.	Define Engineering Ethics. Explain its approaches.	5	May 2018
	Define Engineering Ethics.	5	May 2019
5.	Explain with example different types of Inquires.	10	May 2018
6.	Discuss the factors for one to work and live peacefully.	10	Dec 2018
7.	Explain moral dilemma. State the steps for solving moral dilemma.	10	Dec 2018
	List the situations when moral dilemmas arise.	5/10	May 2019/Nov 2019
8.	Distinguish between causal responsibility, moral responsibility and legal responsibility through appropriate examples.	10	Dec 2018
9.	State five characteristics of professionals.	5	May 2019

10.	Explain the various actions of an engineer leading to dishonesty.	10	May 2019
<b>UNIT – 3 [Safety, Responsibilities of Engineers]</b>			
1.	What is Personal Risk? Explain	5	May 2018
2.	Explain courage and also types of courage based on risk.	10	May 2018
3.	Explain Conflict of Interest. Write about types of conflict of Interest.	10	May 2018
4.	Explain Occupational Crime.	10	May 2017/May 2019
5	What do you mean by collegiality? List the various aspects of collegiality.	5	Dec 2018
6	Name any 5 Techniques (steps) to reduce risks.	5	Nov 2019
7	List the factors which affect the risk acceptability.	10	Nov 2019
<b>UNIT – 4 [Ethical Issues In Engineering Practice]</b>			
1	Explain code of Ethics followed in ‘Institution of Engineers’.	5/10	May 2017/May 2019/Nov 2019
2	(a) List Five code of Ethics of IEEE (b) How to dispose Industrial waste.  Explain how to dispose plastic waste.	10  5	May 2017/May 2018  Nov 2019
3	Explain the different types of problems in computer Ethics.	10	May 2017/May 2018
4	Define computer ethics. List the issues in computer ethics.	5	Dec 2018
5	What do you mean by environmental ethics? What are the duties of engineers towards environmental ethics?	10	Dec 2018
6	Write a note on industrial standards.	5	May 2019
<b>UNIT – 5 [ Human Rights]</b>			
1.	Explain POCSO Act 2012.	5	May 2017
2.	Differentiate between ‘Patent’ and ‘Trade Secret’	5	May 2017
3.	Explain various special programs for women development from Government.	10	May 2017

4.	Describe Copyright with its features and characteristics.	5	May 2018/Nov 2019
5.	Explain the aspects of whistle blowing.	5	May 2018
	What do you mean by whistle blowing? List the aspects of whistle blowing.	5	Dec 2018
6.	Describe the steps taken to eliminate discrimination against women.	10	May 2018
7.	Discuss the provisions under professional rights.	5	Dec 2018
8.	Discuss the features of employee rights.	10	Dec 2018
9.	Explain Dowry Prohibition Act,1961.	10	May 2019/Nov 2019
10.	Explain Domestic Violence Act, 2005.	10	May 2019
11.	Explain patent and its concept.	5	Nov 2019

#### **UNIT – 6 [Indian Constitution]**

1.	Explain the preamble and its main objectives of Indian Constitution.	5	May 2017
2.	What are the procedures followed on parliament in making laws.	5	May 2017
3.	Explain the structure of Judiciary and functions of supreme court of India.	10	May 2017
	Explain the structure of judiciary.	5	Nov 2019
4.	Explain the features of Indian Constitution.	5/10	May2017/ May2019/ Nov 2019
5.	Explain the fundamental rights of every citizen.	10	May 2017
6.	Write a note on Subordinate courts.	5	May 2018

7.	Explain the functions of Public Service Commission.	5	May 2018
8.	(a) Explain the fundamental duties of Indian Citizen. (b) Write about speaker of Loksabha.	10	May 2018
	Explain fundamental duties of every citizen.	10	May 2019
9.	Discuss about the function and power of President of India.	10	May 2018
	State any five functions of President.	5	Dec 2018
	State the powers of president.	5	May 2019
	Explain the role of President of India.	5	Nov 2019
10.	Explain the formation of three tier system for local self government.	10	May 2018
11.	List the committees of Zilla Panchayat.	5	Dec 2018
12.	Explain the fundamental rights of every citizen.	10	Dec 2018
13.	List the functions and powers of parliament.	10	Dec 2018
14.	List out the functions of election commission.	10	Dec 2018
15.	Explain the composition of Lok Sabha.	5	May 2019
16.	State the powers and functions of Prime Minister.	10	May 2019
17.	State the powers and functions of the Governor.	10	Nov 2019
18.	Explain the functions of Village Panchayat.	10	Nov 2019