School of Engineering and Applied Science

B.Tech. CSE/IT
Semester IV
Major Assignment

Important Instructions to Student:

1. Last date for Assignment Submission – **30-May-2020**
2. This assignment carries major **weightage of 50 Marks**. Kindly prepare it very carefully and in a very detailed manner. For any help in this regard, kindly contact your faculties.
3. Front Page of Assignment should clearly include details like:
    a. Your Name
    b. UID Number
    c. Subject
    d. Class
    e. Semester
        In the event of no such information, we may not be able to assign marks for your assignment, for which responsibility lies with students.
4. You can write and submit assignment through any of the following options:
    a. Handwritten Assignment – Prepare softcopy of your assignment through suitable apps and send the assignment as one PDF to your respective faculty as mentioned above.
    b. Typed Assignment – Prepare Assignment with following font setting and submit the assignment to your respective faculty as mentioned above.
        i. Font Type – Times New Roman or Arial
        ii. Headings – Font Size 14
        iii. Text (Except Heading) – 12
        iv. Normal Margin and Line Spacing maximum 1.15
5. After this lockdown ends, you all have to submit the physical assignment copies to your respective Faculties. So, keep the assignment carefully for submission.
6. While submitting assignment through email, kindly use subject line as Name of the Programe_Name of Course/Branch_Semester_Name o the the Subject. For Example B.Tech._Mechanical_IV_Theory of Machines

English Communication and Life Skills – IV Prof. Rakhi Pandey	Mode of Submission: Email – rbs.raiuniversity@gmail.com Subject Line: B.Tech.CSE/IT IV ECLS-IV
1.	Explain All Forms Of Tenses In Detail
2.	Explain 4 Stages Of Team Building In Detail

3	Explain The Following Interview:
	   a. Panel interview
	   b. Group interview
	   c. Stress interview
	   d. Exit interview
	   e. Technical interview

4	Explain the Parts Of Speech In Detail
5.	Explain The All Degree forms Of In Detail

Mathematics-IV Prof. Anjali Ladva	Mode of Submission: Google Form: https://forms.gle/Z4J3N2LhnkBUJmoK9 Subject Line: B.Tech. CSE/IT IV MATHS-IV
1.	Find singular points and determine the type of singularity of function $f(z) = \dfrac{1-e^{2z}}{z^4}$.
2.	Use bisection method to find the root of the equation $x^3 - 4x - 9 = 0$ correct to two decimal places
3.	Consider the following tabular values and determine y (300) using Newton's backward Interpolation.

x :	50	100	150	200	250
y :	618	724	805	906	1032

4.	Using Euler's method compute the solution of $\dfrac{dy}{dx} = y^2 - x^2$ with $y(0) = 1$ at $x = 0, 0.1, 0.5$
5.	Use Runge-Kutta method to find the value of y at x = 1 , given that $\dfrac{dy}{dx} = \dfrac{y-x}{y+x}$, such that y(0) = 1 , take h = 0.5

Principle of Business Management Prof. Ashish S. Rami	Mode of Submission: Email: rbs.raiuniversity@gmail.com Subject Line: B.Tech IV POBM
1.	What is production management? Why management concepts are required in engineering field?
2	What is formal and informal group? Why informal groups are required in the organization?
3.	Visit an organization. Identify the reasons of stress faced by their employees. Which are the remedies to reduce stress?
4.	Write a note on functions of management. Which are the management functions used in your life? How?
5.	What are social responsibilities of business? Identify various social responsibilities carried out by various companies.

Operating System Prof. Rajdipsinh Vaghela	Mode of Submission: Google Form: https://forms.gle/yTZwcxUBPef87MHQA Subject Line: B.Tech. CSE/IT IV OS
1.	Consider the following page reference. Indicate page faults and calculate total number page faults for FIFO, LRU and optimal page replacement algorithm. The total number of available frame is 3. 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1
2.	Consider following process given in table find average turnaround time and average waiting time using FCFS, SJF, SRTN, Non Preemptive Priority, Preemptive Priority RR (q=1).

Process	Arrival Time	Burst time	Priority
P1	0	10	3
P2	1	1	1
P3	2	2	3
P4	3	1	4
P5	4	5	2

3.	Given Memory Partition of 100 K, 500 K, 200 K, 300 K, 600 K. find first fit, best fit, worst fit for processes 212 K,417 K,112 K, 426 K.
4.	Consider the following system check it is safe or not? Write down the safe sequence if system is safe. If request of P1 arrives for (0, 4, 2, 0) can granted or not?

Process	Allocation				Max				Available			
	A	B	C	D	A	B	C	D	A	B	C	D
P1	0	0	1	2	0	0	1	2	1	5	2	0
P2	1	0	0	0	1	7	5	0				
P3	1	3	5	4	2	3	5	6				
P4	0	6	3	2	0	6	5	2				
P5	0	0	1	4	0	6	5	6				

5.	Calculate total number of head movement suppose the disk request queue contain set of reference for block 50,45,180,35,150,5,145,51,54. Using FCFS, SSTF, SCAN, C-SCAN, C-LOOK disk scheduling algorithm.

Computer Organization & Architecture Prof. Hardik Patel	Mode of Submission: Google Form: https://forms.gle/fNVbGrWro5CnWy4cA Subject Line: B.Tech.CSE/IT IV COA
1.	What is the stored program architecture of a computer? Describe with an example

2.	Write a program to evaluate the arithmetic statement
	    1. A*[B+C*(D+E)]
	    2. F*(G+H)
	(a) Using 3 address instructions
	(b) Using 2 address instructions
	(c) Using 1 address instructions
	(d) Using 0 address instructions

3.	Define four main component of CUP-- Data processing, Data Storage, Data Movement, Control on data.
4.	Describe following problem: the differences among sequential access, direct access, Random Access.
5.	What is micro-operation? list out and explain all type of micro-operation with diagram.

Object Oriented Programming with JAVA Prof.Yagnesh Rathod	**Mode of Submission:** **Google Form :** https://forms.gle/2akzFs5coEHFpvnD9 **Subject Line:** B.Tech CSE/IT OOPJ
1.	Differentiate String with StringBuffer class. List out the methods available with String class and explain any five with proper JAVA code in detail.
2	What is an Exception? List out various built-in exceptions in JAVA and explain any one Exception class with suitable example.
3.	What is inheritance in java? Explain different types of inheritance with proper examples.
4.	Differentiate between abstract class and interface specifying matrices of differences. Write a program to define abstract class, with two methods addition() and subtraction(). addition() is abstract method. Implement the abstract method and call that method using a program(s).
5.	Describe abstract class called Shape which has three subclasses say Triangle,Rectangle,Circle. Define one method area() in the abstract class and override this area() in these three subclasses to calculate for specific object i.e. area() of Triangle subclass should calculate area of triangle etc. Same for Rectangle and Circle

Introduction to Internet and HTML Prof. Yagnesh Rathod	**Mode of Submission**: **Google Form**: https://forms.gle/KMKK5g3UGixtCjJi8 **Subject Line**: B.Tech CSE/IT ITIAH
1.	Write a code for following table

A		C	D
E	F	G	G
E	J	K	L
M	N	O	P

2	(i) List the applications of Internet (ii) Explain in brief the history of internet.
3.	(i) Write a java script to calculate the area of the triangle (ii) Write a Java Script to calculate the average of three numbers
4.	What is Cascading Style Sheet? Explain various types of Style Sheets with example.
5.	Write and explain tags to create following HTML form elements with their attributes. (i). textbox (ii). Dropdown list (iii). Password filed (iv). Checkbox (v). radio button

NOTE: After completing your assignments, contact your respective faculty member and submit the assignment for assessment.