Rai University
EVOLVING THINKING MINDS
A LEADING RESEARCH DRIVEN UNIVERSITY

School of Engineering and Applied Science

B.Tech. ELECTRICAL
Semester VI
Major Assignment

Important Instructions to Student:

1. Last date for Assignment Submission – **30-May-2020**
2. This assignment carries the major **weight age 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 an 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 of 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 the subject line as Name of the Programe_Name of Course/Branch_Semester_Name of the Subject. For Example B.Tech._Electrical_IV_Degital Electronics and Microprocessor.

Signals & Systems - VI **Prof. Jaydeep Sejpal**	**Mode of Submission: jaydeep.sejpal@gmail.com** **Submit it within time limit, after that no submission will be accepted)**
1.	Define following standard test signals and sketch them in continuous time and discrete time domain.(1) Unit impulse function (2) Unit step function (3) Unit Ramp function (4) Shifted Unit step function (5) Sinusoidal signal
2.	Draw following Signals x(n) = { 1,2,3,4,5,6} (arrow is at 3) 1.) y(n) 2.) y(n) = x(n+3) 3.) y(n) = x(n-3) 4.) y(n) = x(-n+3)
3	What do you understand by System Realization (it includes Direct form 1 and Direct form 2) By example.
4	Explain the types of representation of Discrete Time Signals with examples
5.	Explain Z transform with its expression and application.

Elements of Electrical Design - VI **Prof. Jaydeep Sejpal**	**Mode of Submission: jaydeep.sejpal@gmail.com** **Submit it within time limit, after that no submission will be accepted)**
1.	Explain the Principles of Electrical Machine Design
2.	Draw the construction of squirrel cage rotor of induction motor and explain
3.	State the output equation for Synchronous machine.
4.	Give a comparison between power and distribution transformer.
5.	Explain in detail about Transformer Cooling and Construction.

Electrical Drives - VI **Prof. Jaydeep Sejpal**	**Mode of Submission: jaydeep.sejpal@gmail.com** **Submit it within time limit, after that no submission will be accepted)**
1.	Draw the block diagram for electric drives (part of electric drives)
2	Explain braking types of DC motor braking, and explain dynamic braking in detail
3.	Draw the curve for constant torque and constant power
4.	Give the advantage and disadvantage of Electric drive.
5.	Give the classification of electric drives

Power System Analysis - VI **Prof. Jaydeep Sejpal**	**Mode of Submission: https://forms.gle/KEip4ngWUYsnpn4G7** **Submit it within time limit, after that no submission will be accepted)**
1.	Explain single phase representation of balance three phase networks.
2.	Write down the steps to draw impedance diagram
3.	Explain types of transmission lines.
4.	Short note: per unit system
5.	Explain Transients on Transmission line.

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Electrical Power Utilization and Traction **Prof. Jaydeep Sejpal**	**Mode of Submission: jaydeep.sejpal@gmail.com (Submit it within time limit, after that no submission will be accepted)**
1.	Explain illumination scheme with different type of illumination scheme..
2.	Explain DC system of track electrification.
3.	Write down the advantages of straight electric drive system..
4.	Brief short note on Indirect resistance
5.	What is Factors to be considered for design of illumination scheme

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