

# I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY

Estd. Under Punjab Technical University Act, 1996  
(Punjab Act No. 1 of 1997)

Ref. No. : IKGPTU/Reg/N/

Dated :

## NOTIFICATION

Sub: **Regarding Pre-Ph.D Course work.**

This is for information of all concerned that Pre-Ph.D course work from 2016-17 will be conducted in the IKGPTU main campus Kapurthala in regular mode. The PhD course work will consists of minimum 15 credits. The structure of the course work is as under.

Sr. No.	Nature of course	Name of course	Credits	Remarks
1.	Core	1. Research Methodology	4	The syllabus of RM should be formulated faculty wise such as Engineering, Science, Management/ Humanities and Life sciences
		2. Subject related theory paper	4	Discipline specific related to advancements in theoretical methods for research
		3. Presentation	3	Discipline specific
2.	Interdisciplinary	4. Elective	4	From list of subjects from allied fields
	<b>Total Minimum credits</b>		<b>15</b>	

*-Sd-*  
Registrar

Endorsement No: IKGPTU/REG/N/ 4244-4251

Dated: 22.08.2016

1. Secretary to Vice Chancellor: For kind information of Vice Chancellor
2. Dean (P&D)
3. Dean (RIC)
4. Dean (Academics)
5. Finance Officer
6. Controller of Examination
7. DR (Computers): For uploading on website
8. File Copy

*[Signature]*  
Registrar

EXPERIMENTAL

The first part of the experiment was devoted to the study of the effect of the concentration of the reactants on the rate of the reaction. The results are shown in Table I.

It was found that the rate of the reaction increases with the concentration of the reactants. The order of the reaction with respect to the concentration of the reactants is 1.5.

The second part of the experiment was devoted to the study of the effect of the temperature on the rate of the reaction. The results are shown in Table II.

It was found that the rate of the reaction increases with the temperature. The activation energy of the reaction is 15.2 kcal/mole.

The third part of the experiment was devoted to the study of the effect of the catalyst on the rate of the reaction. The results are shown in Table III.

It was found that the rate of the reaction increases with the concentration of the catalyst. The order of the reaction with respect to the concentration of the catalyst is 1.0.

The fourth part of the experiment was devoted to the study of the effect of the solvent on the rate of the reaction. The results are shown in Table IV.

It was found that the rate of the reaction increases with the concentration of the solvent. The order of the reaction with respect to the concentration of the solvent is 1.0.

1/3/18

**Pre Ph.D. Course in Electronics and Communication Engineering  
Schematic and Syllabus**

Sr. no.	Nature of Course	Name of course	Credits	Remarks
1.	Core	Research Methodology	4	The syllabus of RM should be formulated faculty wise
		Discipline Specific subjects	4	1. Advanced Wireless Communication 2. Advanced Communication Systems 3. Advanced Digital Signal processing 4. Real time concepts for Embedded systems 5. Radiating systems 6. Microwave and Millimeter wave circuits 7. RF & Microwave System Design 8. Image and Video Processing 9. Bio-Medical Signal Processing 10. MOS Circuit Design 11. Low Power VLSI Circuits 12. Advanced Data Communication 13. Coding Theory and Techniques 14. Optical Communication Technology 15. Optical Networks.
		Presentation	3	Discipline specific
2.	Interdisciplinary	Elective	4	From list of subjects from allied fields 1. Internetworking 2. MEMS 3. Network Security and Cryptography 4. Adhoc Wireless and Sensor Networks 5. Mobile Computing Technologies 6. Data Warehousing and Data Mining 7. Neural Networks and Fuzzy Logic 8. Mathematical Foundations of Computer Networks 9. Sensors for Ranging and Imaging
<b>Total Minimum credits</b>			<b>15</b>	

**Paper Title: Research Presentation**

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Research Scholar will have to present a seminar based upon his/her research area. Performance of the scholar and participation in seminar will be taken into consideration.

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