



UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE' UNIVERSITY)
Baba Sahib Ambedkar Road, Jammu-180006 (J&K)

Academic Section

Email: academicsectionju14@gmail.com

NOTIFICATION (23/April/Adp./23)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the adoption of the Syllabi and Courses of Studies in the subject of **Electronics** of **Semester IIIrd and IVth** for **Four Year Under Graduate Programme (FYUGP)** under the **Choice Based Credit System** as per **NEP-2020** (as given in the annexure) for the examinations to be held in the years as per the details given below:

Subject	Semester	For the examinations to be held in the year
Electronics	Semester-III	December 2023, 2024 and 2025
	Semester-IV	May 2024, 2025 and 2026

The Syllabi of the courses is also available on the University website: www.jammuuniversity.ac.in.

Sd/-

DEAN ACADEMIC AFFAIRS

No. F. Acd/II/23/1234-1254

Dated: 03/5/23

Copy for information and necessary action to:

1. Dean Faculty of Science
2. HOD/Convener, Board of Studies Electronics | Sr. P.A to C.O.E
3. All members of the Board of Studies
4. C.A. to the Controller of Examinations
5. Director, Computer Centre, University of Jammu
6. Deputy Registrar/Asst. Registrar (Conf. /Exams..UG)
7. Incharge University Website for necessary action please

Sumtasham
Deputy Registrar (Academic) 2/5/23

SS 01/05/23 *QAR* 28/4 *M* 28/04/23

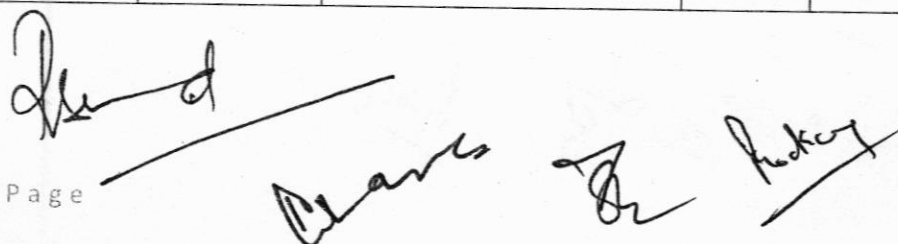
Syllabi and courses of studies in the subject of Electronics under CBCS at UG level for the examinations to be held in the years – 2023, 2024, and 2025.

University of Jammu
Syllabi of Electronics at FYUP under CBCS as per NEP-2020
Semester – III

Four Credits Courses									
S. No.	Course Type	Course No.	Course Title	Credits	Marks				Total Marks
					Theory		Practical/Tutorial		
1	Major	UMJELT301	Network analysis and synthesis	4 (3Th+1P)	Mid Sem: 15 marks	End Exam: 60 marks	Assessment 10 marks	Exam: 15 marks	100
2	Major	UMJELT302	Signals and transforms	4 (3Th+1P)	Mid Sem: 15 marks	End Exam: 60 marks	Assessment 10 marks	Exam: 15 marks	100
3	Minor	UMIELT303	Two-port networks	4 (3Th+1P)	Mid Sem: 15 marks	End Exam: 60 marks	Assessment 10 marks	Exam: 15 marks	100

Three Credits Courses							
S. No.	Course Type	Course No.	Course Title	Credits	Marks		Total Marks
					Theory		
1	Multidisciplinary	UMDELT304	Basics of network analysis	3	Mid Sem: 15 marks	End Exam: 60 marks	75

Two Credits Courses							
SNo	Course Type	Course No.	Course Title	Credits	Marks		Total Marks
					Theory		
1	Skill Enhancement	USEELT305	Basic electronic circuits design	2	Mid semester: 10 marks	End Exam: 40 marks	50



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University of Jammu
Syllabi of Electronics at FYUP under CBCS as per NEP-2020
Semester – III
(Examination to be held December 2023, 2024, 2025)

Course Code: UMJELT301
Credits: 4

Major Course-I
Course Title: Network analysis and synthesis
Total no. of Lectures: Theory: 45 hours
Practical: 30 hours

Maximum Marks: 100 (Theory: 75 + Lab: 25)

Duration of Mid Sem Exam [Theory: 15 (1 hours) + Lab: 10 (daily assessment)]

End Sem Exam [Theory: 60 (3 hours) + Lab: 15 (2 hours)]

Theory (3-credits)

Unit I: Analysis of simple circuits

Voltage and current sources; ideal and practical voltage and current sources; transformation of voltage to current and current to voltage sources; star and delta connections; transformation of star to delta and delta to star connections; branch, loop, mesh, and node; mesh analysis; node analysis;

Unit II Network theorems

Thevenin's theorem; Norton's theorem; Superposition theorem; Maximum power transfer theorem; Millman's theorem; Reciprocity theorem; Compensation theorem.

Unit III: A.C. circuit analysis

Series resonance: Determination of resonant frequency and bandwidth, relation between bandwidth and quality factor, impedance variation, reactance variation, phase angle; Parallel resonance: Determination of resonant frequency and bandwidth, relation between bandwidth and quality factor, reactance curves; Determination of resonant frequency for tank circuit.

Unit IV: Two-port networks

Introduction of two-port network; two-port network parameters: open circuit impedance, short circuit admittance, transmission, inverse transmission, hybrid, and inverse hybrid; Inter-relationship between two-port network parameters: open circuit impedance and short circuit admittance parameters, transmission and inverse transmission parameters, hybrid and inverse hybrid parameters; determination of characteristic impedance of T and π networks.

Reference Books:

- Sudhakar and Shyam Mohan, **Network and Circuits: Analysis Synthesis**, Tata McGraw- Hill, NewDelhi
- M.E. VanValkenburg, **Network Analysis**, Prentice-Hall of India, NewDelhi
- Schaum's outline series, **Electric Circuits**, Tata McGraw Hill, NewDelhi
- T.F. Bogart Jr. **Electric Circuits**, Tata McGraw-Hill, NewDelhi

Note:- Practical course (1-credit): Students are required to perform any five practicals based on theory.

