Sankalchand Patel University

Faculty of Science

B.Sc. Physics (SEM-VI)

In Effect from Academic Year 2018-19

Subject Code:1SC1050604	**Subject Title: Physics-604**

COURSE OBJECTIVE:

Physics is a science to understand the nature. This course is designed to get basic understanding of the physical world.

Teaching scheme (hours) per week		**Credit**		**Theory Marks**		**Practical Marks**		**Total**
Theory	**Practical**	**Theory**	**Practical**	**University Assessment**	**Cont. Assessment**	**University Assessment**	**Cont. Assessment**	
3	**--**	**3**	**--**	**70**	**30**	**--**	**--**	**100**

Unit	**Content**	**Lectures**	**Weightage**
1	**(a) Feedback Amplifier** Feedback, Principle of Feedback Amplifiers, Advantages of Negative Feedback, Reasons for Negative Feedback. **(b) Transistor Oscillators (Sinusoidal):** Tuned Collector Oscillators, Hartley Oscillator, Colpitt's Oscillators (Circuit operation and alternative treatment only), Phase Shift oscillator, R-C- Oscillator, Wien Bridge Oscillator, Crystal Oscillator.	15	33%
2	**(a) Modulation** Introduction, Expression for Amplitude modulated voltage, Wave form Amplitude modulated voltage, Side band produced in Amplitude modulated wave, Modulated power output, Frequency Modulation, Frequency deviation and carrier swing, Modulation index, Expression for frequency modulated wave, Phase modulation. **(b) Digital Electronics:** Simplification using Karnaugh Maps, Don't Care Conditions, BCD-to-7 Segment Decoder, Digital Comparator, Multiplexer, Demultiplexer.	15	33%
3	**(a) Operators and Expressions** Introduction, Operators: Arithmetic, Relational, Logical, Assignment, Increment and Decrement, Conditional, Bitwise, Special. Arithmetic Expressions, Evolution of Expressions, Precedence of Arithmetic Operators, Some Computational Problems, Type Conversion in Expressions, Operator Precedence and Associatively, Mathematical Functions. **(b) Managing Input and Output Operations** Introduction, Reading and writing a Character, Formatted Input and Output. **(c) Decision making and branching** Introduction, Decision making with if statement, simple if statement, The if-else statement, Nesting of if-else statement, The else if ladder, The switch statement, The ? : operator, The Goto statement.	15	34%

LEARNING OUTCOMES:

- Develop an actual understanding of the Amplifier.
- To know the basic concept of Digital Electronics.
- Understand the concept of Computer C Language.

Basic Reference books:

1. Hand book of Electronics by Gupta & Kumar 30th Revised Edition,2002Pragati Prakashan
2. Hand Book of Electronics by Gupta and Kumar. 30th revised Edition 2002.
3. Programming in ANSI C (3rd Ed.), TMH Pub. E Balaguruswami.