VEER NARMAD SOUTH GUJARAT UNIVERSITY

Syllabus for B. Sc. Semester VI

Subject: Physics (PHY-6011)

Paper –XI

[2 credit course- 2 hours per week]

Unit – I **Astrophysics & Cosmology** **Duration: 15 hrs**

Cosmology:

The expansion of the universe (16.1), the cosmic microwave background radiation (16.2), dark matter (16.3), cosmology and general relativity (16.4), the big bang cosmology (16.5), the formation of nuclei and atoms (16.6), echoes of big bang (16.7), the future of universe (16.8)

Text Book: Modern physics by Kenneth Krane, John Wiley & sons, (2^{nd} edition)

Unit – II **Programming in C** **Duration: 15 hrs**

Introduction to computer, Numeric constants,

(i) constants, (ii) scalar variables, (iii) declaring variable names, (iv) defining constant Arithmetic Expressions,

(i) Arithmetic operators and modes of expressions, (ii) Integer expression, (iii) Floating point expression, (iv) Operator precedence in expression, (v) Assignment statements, (vi) Defining variables

(vii) Arithmetic conversion, (viii) assignment expression, (ix) Increment decrement statement, (x) multiple assignments

Input output statements, Conditional statements, Loops

(i) the *while* loop, (ii) the *for* loop, (iii) the *do while* loop

Some simple programs in 'C'

Text book: (1) Computer Programming in C by V Rajaraman, Prentice-Hall of India, New Delhi, (2) Programming in C by Balagurusamy

Note: Illustrative problems on all the relevant topics should be covered.

REFRENCE BOOKS:

1. Computer fundamentals & C programming by Balagurusamy, Tata McGraw Hill Education
2. Schaum's outline series, theory and problems with C by Byron S Gottfried, McGraw Hill publications
3. Programming in ANSI C by Balagurusamy, Tata McGraw Hill Education
4. Programming with C by Venugopal and Sudeep, Tata McGraw hill