

## **BITS HD Syllabus**

### **BITS HD 2020 Syllabus for Civil Engineering**

Design of Concrete Structures  
Design of Steel Structures (Limit State Design)  
Analysis of Structures  
Transportation Engineering  
Geodesy  
Mechanics and Strength of Materials  
Construction Planning and Technology  
Soil Mechanics and Foundation Engineering  
Water and Wastewater Treatment  
Hydraulics and Fluid Mechanics

### **S.No. BITS HD Syllabus 2020 for Electrical and Electronics Engineering**

- 1 Analog Electronics
- 2 Digital Electronics & Computer Organization
- 3 Microprocessors
- 4 Circuits & Signals, Digital Signal Processing
- 5 Electrical Sciences
- 6 Electronic Devices & Integrated Circuits, Microelectronics Circuits
- 7 Control Systems, Power Electronics
- 8 Electromechanical Energy Conversion, Power Systems
- 9 Communication Systems

### **S.No. Syllabus of BITS HD 2020 for Mechanical Engineering**

- 1 Workshop Practice
- 2 Production Techniques
- 3 Production Planning and Control
- 4 Design of Machine Elements

- 5 Kinematics & Dynamics of Machines and Vibrations
- 6 Transport Phenomena I
- 7 Transport Phenomena II
- 8 Thermodynamics
- 9 Applied Thermodynamics
- 10 Mechanics of Solids

**S.No. Computer Science Syllabus of BITS HD 2020**

- 1 Discrete Mathematics & Theory of Computation
- 2 Data Structures and Algorithms
- 3 Digital Electronics and Microprocessors
- 4 Operating Systems
- 5 Computer Organization and Architecture
- 6 Computer Networks
- 7 Database Management Systems
- 8 Programming Languages and Compiler Construction
- 9 Software Engineering
- 10 Artificial Intelligence

**S.No. BITS HD 2020 Syllabus for Instrumentation**

- 1 Analog Electronics
- 2 Digital Electronics & Computer Organization
- 3 Microprocessors
- 4 Circuits & Signals, Digital Signal Processing
- 5 Electrical Sciences
- 6 Electronic Devices & Integrated Circuits, Microelectronics Circuits
- 7 Control Systems, Power Electronics
- 8 Industrial Instrumentation & Control, Analysis Instrumentation
- 9 Transducers & Measurement systems
- 10 Electronic Instruments and Instrumentation Technology + Medical Instrumentation

**S.No. BITS HD 2020 Syllabus for Biological Sciences**

- 1 Genetics
- 2 Molecular Technique
- 3 Biological Chemistry
- 4 Microbiology
- 5 Ecology
- 6 Plant Physiology
- 7 Biophysics
- 8 Developmental Biology
- 9 Cell Biology
- 10 Animal Physiology

**S.No. BITS HD 2020 Syllabus for Chemistry**

- 1 Chemical Kinetics
- 2 Chemical Thermodynamics
- 3 Quantum Chemistry and Atomic and Molecular Structure
- 4 Structure and Reactivity of Organic Compounds
- 5 Instrumental Methods of Analysis
- 6 Bonding in Inorganic Compounds
- 7 Chemical Experimentation
- 8 Synthetic organic Chemistry
- 9 Basic Organic and Inorganic Chemistry
- 10 Chemistry of Organic Compounds

**S.No. BITS HD 2020 Syllabus for Mathematics**

- 1 Algebra I
- 2 Algebra II
- 3 Elementary Real Analysis
- 4 Measure and Integration
- 5 Introduction to Topology
- 6 Introduction to Functional Analysis
- 7 Differential Geometry
- 8 Optimization
- 9 Operations Research

10 Numerical Analysis

**S.No. BITS HD Syllabus 2020 for Physics**

- 1 Modern Physics
- 2 Thermodynamics & Properties of Matter
- 3 Classical Mechanics
- 4 Electromagnetic Theory
- 5 Quantum Mechanics
- 6 Methods of Mathematical Physics
- 7 Statistical Physics
- 8 Solid State Physics
- 9 Optics & Spectroscopy
- 10 Nuclear & Particle Physics

**S.No. BITS HD Syllabus 2020 for Software System Test**

- 1 Structured Programming in C
  - 2 Advanced Programming in C
  - 3 Object Orientation and Software Engineering
  - 4 Databases and Networked Systems
  - 5 Core Systems
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