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B.Tech. Mechanical Engg. (BTMEVI) / B.Tech
Electrical Engg (BTELVI) / B.Tech Computer
Science & Engg (BTCSEVI) / B.Tech Civil Engg
(BTCLEVI) / B.Tech. Electronics and
Communication Engg. (BTECVI)

Term-End Examination

June, 2012

**BICE-001 : ELEMENTS OF ENGINEERING
SCIENCE**

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions in total. All questions carry equal marks.

1. (a) List out the various Laws of Resistance. 5
(b) Explain the effect of Temperature on Resistance. 5
2. Define Kirchhoff's Laws. Explain its applications in Network of conductors and in conductors. Also in determination of Voltage Sign. 10
3. (a) Explain the role of Civil Engineer in the development of Nation. 5
(b) What is the role of Civil Engineer while constructing a Multipurpose Reservoir ? 5

4. What are the different types of structural design ? Also Explain the importance of Framed Structured Design of multistorey buildings. 10
5. What are the functions of a Scale ? Also explain the difference between an enlarging and reducing Scale. 10
6. (a) Explain with the help of neat sketch the graduations of a Prismatic Compass. 5
(b) What are the sources of errors in compass survey ? 5
7. What is Local Attraction ? How is it detected and detected and eliminated ? 10
8. Define and distinguish between the :
(a) First and Second laws of Thermodynamics 6
(b) Explain the carnot cycle of Heat Engines. 4
9. Explain with neat sketch, functions of various component parts of Two stroke Petrol Engine. 10
10. Write short notes on *any two* of the following : 10
(a) Radial drilling Machine
(b) Stress-strain curve for ductile materials
(c) Newton's Law of cooling.

