

2009-ACHARYA NAGARJUNA UNIVERSITY
B.TECH I SEMESTER DEGREE EXAMINATION
BASIC CIVIL AND MACHANICAL

FEBRUARY-2009

CIVIL ENGINEERING

PART A [5*2=10 MARKS]

- a. What is meant by limit of proportionality?
- b. Define foundation.
- c. How are rocks classified? Give the dimension of a brick.
- d. Define line of collimation or principal line of sight.
- e. What is dam? Why is it necessary?

PART B [2*15=30 MARKS]

1. a. Explain salient points of stress strain curve of mild steel specimen.
- b. Describe the composition of brick making earth?
(or)
2. a. Briefly explain the term "The foundation". Enumerate the various types of building foundations. Explain any one of them with the aid of a neat sketch?
- b. What are the requirements of good plaster? Mention the objective of providing plastering to the exposed surface?
3. a. Describe in brief the essential difference between the following levels.
(a) Dumpy level (b) Y-level (c) Tilting level
- b. Discuss in brief the principle of surveying? Explain the various methods of leveling?
(or)
4. a. Explain the various types of roads?
- b. Enumerate the various types of Dams with their merits & demerits.

MECHANICAL ENGINEERING

PART A [5*2=10 MARKS]

- a. How are steam boilers classified?
- b. What is the principle of operation of steam turbines?
- c. What is main characteristic feature of an air-refrigeration system?
- d. What are the fundamental differences between petrol and diesel engines?
- e. What are the various methods of producing refrigeration?

PART B [2*15=30 MARKS]

- 1.a. Sketch and describe the working of locomotive boiler.
- b. Sketch and describe the working of a Babcock and Wilcox water tube boiler.
(or)
2. a. Sketch and explain pressure-compounded impulse turbine, showing the pressure and velocity variations along the axis.
- b. Explain with necessary sketches the working of vapour compression refrigeration system.
- 3.a. What are the merits and demerits of a gas turbine power plant-compared to other Thermal power plants?
- b. Write a short note on solar, wind and tidal energy.
(or)
- 4.a. Describe the operating principle of a four –stroke petrol engine and describe the process entailed in each stroke.
- b. Describe the operating principle of a two –stroke petrol engine and describe the process entailed in each stroke.

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