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Question Paper Code : 40017

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Second Semester

Electrical and Electronics Engineering

BE 8252 – BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to : Electronics and Instrumentation Engineering/Environmental Engineering/Instrumentation and Control Engineering/Material Science and Engineering/B.Tech. Bio Technology/Food Technology/Pharmaceutical Technology)

(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. State the required properties of good quality sand.
2. Define Hooke's law.
3. List out the various types of surveying.
4. What are the qualities of good brick ?
5. Mention the objectives of plastering.
6. State the purpose of a dam.
7. Differentiate between boiler mountings and boiler accessories.
8. What is the use of surge tank in hydropower plants ?
9. Define the term refrigeration effect.
10. What is the function of thermostat ?

PART – B

(5×13=65 Marks)

11. a) What are the different types of cement ? Explain in detail.

(OR)

- b) Describe the various forms and sources of energy.



12. a) Explain the different properties of good building brick.

(OR)

b) What are the different types of instruments used in chain surveying? Explain in detail.

13. a) Elaborately discuss the points to be considered while selecting a site for construction of Dam.

(OR)

b) Discuss the advantages and disadvantages of brick masonry over stone masonry.

14. a) Describe the working principle of nuclear power plant with neat sketch.

(OR)

b) Explain the following components :

a) Connecting rod

b) Crank shaft

c) Camshaft, with reference to function and material.

15. a) Discuss in detail the working of window type air conditioner with a neat sketch.

(OR)

b) i) Distinguish between vapour compression and vapor absorption refrigeration system. (10)

ii) List out the applications of refrigeration system. (3)

PART – C

(1×15=15 Marks)

16. a) i) Differentiate between four-stroke and two-stroke cycle engines. (10)

ii) Mention any five desirable properties of good refrigerant. (5)

(OR)

b) i) With an illustration explain the working of a hydroelectric power plant. (10)

ii) Draw a layout of a typical split air conditioner. (5)