



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 60020

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Second Semester

Electrical and Electronics Engineering

BE 3255 — BASIC CIVIL AND MECHANICAL ENGINEERING

(Common to : Electronics and Instrumentation Engineering/Environmental Engineering/Instrumentation and Control Engineering)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the components of National Building Code?
2. What does Environmental engineering deals with?
3. What are the constituents of a Bricks?
4. What are the instruments used for levelling?
5. What is a culvert?
6. What are the tools used for dressing of stones?
7. What is SI engine?
8. Define Centrifugal Pump.
9. Name commonly used refrigerants.
10. What is psychrometry?

PART B — (5 × 13 = 65 marks)

11. (a) Discuss the good planning activities of Smart city infrastructure development.
Or
(b) Discuss different methods of Roof top rainwater harvesting.
12. (a) Show with neat sketches the characteristic features of contour lines. What are the uses of a contour map?
Or
(b) List and discuss few physical and mechanical properties of building materials?
13. (a) Discuss any two types of foundations of a building.

Or

- (b) List the factors for the selection of a suitable site for a concrete dam.
- 14. (a) Discuss the differences between Fire-tube and Water-tube boilers.

Or

- (b) Discuss the layout of a steam power plant and function of each component.
- 15. (a) Draw the layout diagram of a typical domestic refrigerator and explain the working of its various components.

Or

- (b) Draw the layout diagram of a typical window air-conditioner and explain the working of its various components.

PART C — (1 × 15 = 15 marks)

- 16. (a) With suitable case study, explain in detail about the Automation Process in Automobile Industry.

Or

- (b) Explain in detail about the measurement of land with different survey instruments in real world practical condition.
-