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Question Paper Code : 21468

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Second Semester

Electrical and Electronics Engineering

GE 2152/ME 26/GE 1151 A/10111 CE 206/080510002 — BASIC CIVIL AND
MECHANICAL ENGINEERING

(Common to Electronics and Communication Engineering, Biomedical Engineering,
Computer Science and Engineering, Electronics and Instrumentation Engineering,
Instrumentation and Control Engineering and Information Technology)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the objectives of surveying?
2. What is the advantage of reinforced concrete compared to plain concrete?
3. What is a mud plaster?
4. What is a deep foundation?
5. What is the advantage of buttress dam compared to solid gravity dam?
6. What are the main components of gas turbine power plant?
7. Mention the purpose of moderator in a nuclear reactor.
8. What are the functions of fuel injection pump in a Diesel engine?
9. Calculate the number of sparks per minute produced by the spark plug of a four-stroke single cylinder petrol engine running at 3000 rpm.
10. Define Ton of refrigeration.

PART B — (5 × 16 = 80 marks)

11. (a) Classify surveying based on the instruments used. Discuss any two methods in detail.

Or

- (b) Discuss qualities and uses of any three building materials.

12. (a) Discuss in detail about the foundation for machinery.

Or

- (b) (i) Explain various kinds of rubble masonry with sketches. (8)

- (ii) Write short notes on columns. (8)

13. (a) (i) Write briefly about the types of floorings. (6)

- (ii) What are the factors to be considered and data to be collected before constructing a bridge? (10)

Or

- (b) (i) Draw the layout of thermal power plant and indicate various systems in it. (10)

- (ii) Write briefly the principle of working of single acting reciprocating pump. (6)

14. (a) With relevant sketches explain the operation of four stroke petrol engine.

Or

- (b) (i) Write briefly about the fuel supply systems used in SI engines. (10)

- (ii) Compare two stroke and four stroke engines. (6)

15. (a) Explain the operation of any one type of refrigeration system with the schematic line diagram.

Or

- (b) Explain Window Air-Conditioner with a neat diagram.