C16–EE–**402**

# 6441

## BOARD DIPLOMA EXAMINATION, (C–16)

## OCTOBER—2020

## DEEE—FOURTH SEMESTER EXAMINATION

POWER SYSTEM—I (G & P)

*Time* : 3 hours ] [ *Total Marks* : 80

**PART—A** 3×10=30

***Instructions*** : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

**1.** State the disadvantages of conventional type of sources.

**2.** State the need of energy conservation.

**3.** List the methods to control pollution.

**4.** What is the use of surge tank in hydroelectric power plant?

**5.** List the merits of using nuclear energy.

**6.** State the basic components of wind mill.

**7.** State the merits of integrated power station.

**8.** State the purposes of isolator, air break switch and knife switch.

**9.** List the precautions to be taken for applying differential protection to transformers.

**10.** State the important features of relay.

## PART—B

10×5=50

***Instructions*** **:** (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

**11.** *(a)* List the requirements for setting up of thermal power station.

*(b)* Explain about super heater.

**12.** Explain the working of medium head hydro power station with line diagram.

**13.** Explain the working of nuclear reactor with neat diagram.

**14.** Explain the working of solar pump set with block diagram.

**15.** The maximum demand of a 60 MW power station is 50 MW in a particular day. The power station supplies to various consumers having maximum demands of 6 MW, 8 MW, 16 MW and 20 MW. The daily load factor is 60%. Find *(a)* average load *(b)* energy supplied per day *(c)* demand factor and *(d)* diversity factor.

**16.** *(a)* Define power factor and explain one method of improving p.f.

*(b)* Explain the scheme of surge protection with diagram.

**17.** Explain the working of $SF_6$ circuit breaker with neat diagram.

**18.** Explain the differential protection for alternators.

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