

SUBJECT CODE NO:- P-59
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E.(EEP/EE/EEE) Examination MAY/JUNE-2016
Electrical Power Generation & its Economics
(Revised)

[Time:Three Hours]

[Max Marks:80]

“Please check whether you have got the right question paper.”

- N.B
- i) Q.No.1 from section A and Q.No.6 from section B are compulsory.
 - ii) Attempt any two questions from the remaining questions in each section.
 - iii) Assume suitable data, if necessary.
 - iv) Figure to the right indicates full marks.

SECTION A

- Q.1 Solve any five questions. 10
- a) What is function of air pre heater in steam power plant?
 - b) Explain condenser used in steam power plant.
 - c) Discuss the factor which affect- the thermal efficiency of thermal power plant in short.
 - d) What is the function of storage and pondage in hydro power plant?
 - e) Write factor considered for selection of nuclear power plant.
 - f) Why water hammer creates & How?.
 - g) What is hydrology?
 - h) When & where diesel electric power plants are used.
- Q.2 05
- a) Discuss factor to be taken into account while selecting site for a thermal power station. 05
 - b) Explain Ash handling in thermal power plant. 05
 - c) Explain stage of coal handling in thermal power plant. 05
- Q.3 05
- a) Explain working of hydro power plant. 05
 - b) Write short note of pelton wheel with diagram. 05
 - c) Draw the hydrograph and find average monthly flow. 05
- | Month | Discharge m ³ /s | Month | Discharge m ³ /s |
|-------|-----------------------------|-----------|-----------------------------|
| Jan | 1000 | July | 2500 |
| Feb | 800 | Aug | 3000 |
| Mar | 600 | September | 2400 |
| April | 500 | Oct | 2000 |
| May | 200 | Nov | 1500 |
| June | 1500 | Dec | 1500 |
- Q.4 05
- a) Discuss the function of 05
 - i) Penstock
 - ii) surge Tank
 - iii) spill way
 - iv) Forebay
 - v) Trash Rack.
 - b) Write short note on economizer of thermal power plant. 05
 - c) Write prospectus and development of nuclear power plant in India. 05
- Q.5 05
- a) Write main components with their function in diesel power plant. 05
 - b) With neat diagram explain various parts of nuclear reactor. 05
 - c) Write short note on nuclear waste disposal. 05

SECTION B

- Q.6 Solve any five questions. 10
- a) Write in short about gas plant fuel.
 - b) Write application where solar energy used.
 - c) What are forms of geothermal energy?
 - d) Draw sketch of wind power mills.
 - e) List the method of finding out the depreciation cost.
 - f) What do you mean by base load and peak load plant?
 - g) Differentiate between fixed cost & operating cost.
 - h) Draw sketch of incremental fuel cost curve.
- Q.7
- a) Method of improving efficiency of gas power plant. 05
 - b) Write components of gas power plant with their functions. 05
 - c) Why gas power plant used as peak load power plants. 05
- Q.8
- a) Explain MHD plant with diagram. 05
 - b) Write note on photo voltaic cell. 05
 - c) Write note on Tidal Power Generation. 05
- Q.9
- a) Write short note on constrains of economic generation. 05
 - b) Write short note on choice of size and number of generator units. 05
 - c) How is reduction of cost is done by using inter connecting generators. 05
- Q.10
- a) What is importance of solar power in present energy used in world? 05
 - b) Explain comparison of all power plants. 05
 - c) Describe in brief cost of electrical energy. 05