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SUBJECT CODE NO: E-312
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E.(EE/EEE/EEP)(CGPA) Examination Nov/Dec 2017
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 right indicate full marks.

Section A

- Q.1 Solve any five questions. 10
- a) Write the types of boilers?
 - b) What is the function of surge tank?
 - c) What is hydrology?
 - d) Write the classification of nuclear reactor.
 - e) Write the function of super heater?
 - f) What are the types of gates?
 - g) What are the auxiliary equipment for Diesel Power Plant?
 - h) Draw the sketch of penstock.
- Q.2
- a) What are the factors to be considered for selection of the site for a thermal power station. 05
 - b) Briefly describe the main parts and the working of a steam power station 05
 - c) Write short note on condenser. 05
- Q.3
- a) What are the steps for ash disposal and dust collection? 05
 - b) Explain the general arrangement and operation of a hydroelectric plant. 05
 - c) Write short note on water hammer and surge tank. 05
- Q.4
- a) What are the methods of producing nuclear reaction? What is chain reaction? 05
 - b) List out main parts of a reactor and briefly state their functions. 05
 - c) What are the advantages and disadvantages of the nuclear power station? 05
- Q.5
- a) Describe briefly the main components of a diesel electric plant. 05
 - b) What are the factors of selecting a site for diesel electric station? 05

c) Draw the hydrograph and fluid average monthly flow.

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Month	Discharge m ³ /s
Jan	1000
Feb	500
March	800
April	500
May	200
June	1500
July	2500
Aug	3000
September	2400
October	2000
November	1500
December	1500

Section B

Q.6 Solve any five questions.

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- Write the applications of Gas turbine plants.
- What is the function of compressors?
- What is a fuel cell?
- Draw the sketch of wind power mill.
- Draw the sketch of incremental fuel cost curve.
- Differentiate between fixed cost and operating cost.
- What is meant by zero energy house?
- Define load factor and diversity factor

Q.7

- Describe briefly a gas turbine plant.
- What gas power plant used as peak load power plants?
- Explain the open cycle gas turbine plants.

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Q.8

- Explain MHD plant with diagram.
- Explain the horizontal axis wind mill with neat sketch.
- What are the advantages of tidal power plant?

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Q.9

- Explain the comparison of all power plants.
- How is reduction of cost is done by using inter connecting generators.
- What are constraints of economic generation?

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Q.10 Write short note on any three.

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- Solar energy
- Geothermal power generation
- Base load and peak load plants
- Wind