

LAGOS CITY POLYTECHNIC, IKEJA
SCHOOL OF ENGINEERING AND APPLIED SCIENCE
DEPARTMENT OF ELECT/ELECT ENGINEERING
2016/2017 SEMESTER EXAMINATION

COURSE	TITLE:	ELECTRICAL	POWER
COURSE CODE:	SYSTEM II	NO OF QUESTIONS :	6
FOR WHOM:	EEC 232	TIME ALLOWED:	2 HRS
ANSWER	ND YR II	PT	INSTRUCTIONS:
NO OF STUDENT:	EE	ANY	4

QUESTIONS.

1. (a) With the aid of a well labelled diagram show the various parts of a Nuclear Power Plant.
- (b) Explain clearly three factors that affect the choice of site for a Hydro-electric power station.
 - (i) State two advantages of a Hydro-electric power generation
2. (a) Show a well labelled diagram of the Magnetohydrodynamic (MHD) power station. Discuss its principle of operation.
- (b) A hydroelectric generating station is supplied from a reservoir of capacity 6 x 10 cubic meters at a head of 300 meter. Find the total energy available in kwh if the overall efficiency is 75%.
- (c) List the advantages of MHD power generation.
3. (a) Draw a well labelled schematic of a typical Electric power system.
 - (i) What is a Grid and state the power grid voltages
- (b) A generating station has a connected load of 43mw and maximum demand of 20mw, the unit generated being 61×10^6 per annum. Calculate
 - (i) What is a base load and list examples of base load generators.
4. (a) List the requirements of a line support
 - (i) Highlight the different line supports used by transmission and distribution lines.
- (b) An individual consumer having a minimum demand of 100kw consumed 500,000 units of electricity/annum. Determine his load factor.
- (c) List the importances of load curves
5. (a) What is per unit representation
 - (i) State the advantages of per unit system
- (b) Explain the classifications of overhead transmission line in power transmission.
 - (i) With the aid of a diagram show the Normal-T and Normal representation/configuration of a medium length transmission line.
6. (a) State and explain clearly the parameters that govern the performance of a transmission line.
 - (i) List four Non-conventional method of electricity generation
 - (b) List materials commonly used for conductor in transmission lines.