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**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA**

**FACULTY OF SCIENCES**

**DEPARTMENT OF PURE AND APPLIED SCIENCE**

**2018\_2 SEMESTER EXAMINATION**

**COURSE CODE: PHY 310**

**COURSE TITLE: ELECTRONICS II**

**CREDIT UNIT 2**

**TIME ALLOWED (2 HRS)**

**INSTRUCTION: *Answer question 1 and any other three questions***

**QUESTION 1**

1. Define amplifier [3 marks]
2. Give 3 merits of close loop amplifiers. [3 marks]
3. What methods are used to store electrical energy? [3 marks]
4. What is a filter? [3 marks]
5. Explain the term multistage amplifier. [6 marks]
6. List five merits of multistage amplifiers[5 marks]
7. List two demerits of multistage amplifiers[2 marks]

**QUESTION 2**

1. Distinguish between open loop and closed loop multistage amplifiers[5 marks]
2. What is open loop gain of an amplifier**?** [4 marks]
3. List four ways of applying negative feedback signals to amplifiers[6 marks]

**QUESTION 3**

1. List 4 problems in telecommunication that can be solved by applying negative feedback to amplifiers [6 marks]
2. Sketch three classes of power amplifiers and describe their operation? [9 marks]

**QUESTION 4**

(a) Define the following terms as they apply to power amplifiers

(i) Power Gain **[2 marks]** (ii).Bandwidth **[2 marks]**  ( iii)Linearity **[2 marks]**

(iv) Noise Figure **[2 marks]** (v) Output Dynamic Range **[2 marks]**

(b)Discuss why instability is such a serious problem in power amplification stages? [5 marks]

**QUESTION 5**

1. How is electricity conveyed from the generating station to the consumer? [6 marks]
2. Diagrammatically differentiate a high pass L- filter from a Low pass L- filter[3 marks]
3. Distinguish between passive and active filters[6 marks]