

**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikwe Express Way, Jabi- Abuja**  
**Faculty of Education**  
**Department of Sciences Education**  
**2023\_1 POP EXAMINATION.**

**Course Code: SED835**

**Course Title: Laboratory Design and Management**

**Credit Unit: (3units)**

**Time Allowed: 3 Hours**

**Instruction: Answer question one (1) and any other three questions**

1. (a) Discuss the distinctive features that differentiate between outdoor and indoor Laboratories (8marks)
- (b) Students performance in the laboratory are measured based on the three domains of learning. List and discuss (9marks)
- (c) Discuss the advantages and disadvantages of fixed and flexible design in school laboratories (8 marks) **(Total Q 1 = 25marks)**
  
2. (a) Discuss the need for a preparatory room in science laboratory (5marks)
- (b) Discuss the existing difference between power 8 laboratory and the laboratory built decades ago. (5marks)
- (c) Distinguished between the main store, work store and bulk store. (5marks) **(Total Q 2 = 15marks)**
  
3. (a) Discuss two preventive measures you can adopt to ensure safety in the school Laboratory (5marks)
- (b) List three protective devices and discuss their functions in the science laboratory. (5marks)
- (c) Discuss the hazards involved in using wrong procedures in disposing waste materials. (5marks) **(Total Q3 = 15marks)**
  
4. (a) Discuss the importance of labeling in a school laboratory (5marks)
- (b) Discuss the hazard posed by the use of electricity in a school laboratory. (5marks)
- (c) Draw a fire triangle and fix the three factors then discuss (5marks) **(Total Q4 = 15marks)**
  
- 5 (a) As a science student in the Faculty of Education State, the sub headings of chapter three of a research work. (5marks)
- (b) A new school is established and you are posted to establish a Science Laboratory. Discuss your line of actions. (5marks)
- (c) Discuss the management role of a head of science department and his/her key responsibilities. (5marks) **(Total Q 5 = 15marks)**