



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, CADASTRAL ZONE, NNAMDI AZIKWE EXPRESSWAY, JABI, ABUJA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE
2025_1 EXAMINATION...

COURSE CODE: EHS301

COURSE TITLE: BASIC INSTRUMENTATION AND USE

COURSE UNITS: 2 CREDIT UNITS

TIME ALLOWED: 1 ½ HOURS

TOTAL SCORE: 70 MARKS

INSTRUCTION: ANSWER ALL QUESTIONS

- 1 (a) Give at least three (3) examples each belonging to the following environmental hazards
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|----------------------------------|----------------|
| i. Chemical hazards | 3 marks |
| ii. Physical/ mechanical hazards | 3 marks |
| iii. Biological hazards | 3 marks |
- (b) i. What is Spectrophotometry? **3 marks**
- ii. State the first three (3) sequence of events in a scanning spectrophotometer **3 marks**
- (c) Differentiate between single beam and double beam **5 marks**
- 2 (a) Highlight the advantages and disadvantages of hot air oven **7 marks**
- (b) Briefly explain sol gel as one techniques of air sensing **6 marks**
- (c) Write short notes on validation analytical methods and precautions of following items
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|----------------------------|----------------|
| i. Reagents | 3 marks |
| ii. Sample blanks | 3 marks |
| iii. Calibration standards | 3 marks |
| iv. Weighing | 3 marks |
- 3 (a) Explain the term barometer **5 marks**
- (b) Describe the following types of barometers
- | | |
|--------------------------------|----------------|
| i. Water-based barometers | 5 marks |
| ii. Mercury barometers | 5 marks |
| iii. Vacuum pump oil barometer | 5 marks |
| iv. Aneroid barometer | 5 marks |