# ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

**(Department of Science Education)**

**WARNING**

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM THE AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENT(S) BORROWED OR STOLEN FROM OTHER(S) AS ONE’S OWN WILL BE PENALIZED AS DEFINED IN “AIOU PLAGIARISM POLICY”.**

**Course: Physics V (8671) Semester: Spring, 2025**

**Level: B.Ed. (2.5 & 4 Years)**

## **Please read the following instructions for writing your assignments**

## **(AD, BS, B.Ed, MA/MSc, MEd) (ODL Mode)**

1. All questions are compulsory and carry equal marks but within a question the marks are distributed according to its requirements.

2. Read the question carefully and then answer it according to the requirements of the questions.

3. Avoid irrelevant discussion/information and reproducing from books, study guides, or allied material.

4. Handwritten scanned assignments are not acceptable.

5. Upload your typed (in Word or PDF format) assignments on or before the due date.

6. Your own analysis and synthesis will be appreciated.

7. Late assignments can’t be uploaded at LMS.

8. The students who attempt their assignments in Urdu/Arabic may upload a scanned copy of their handwritten assignments (in PDF format) on University LMS. The size of the file should not exceed 5MB.

**Total Marks 100 Pass Marks: 40**

**ASSIGNMENT No. 1**

**(Units: 1–4)**

Q. 1 What is a moment of inertia? Explain the procedure for determining the moments of inertia of rotationally symmetric bodies from their period of oscillation on a torsion axle. **(20)**

Q. 2 Watch the video given in the experiment “Study the Damping Feature of an Oscillating System Using Simple Pendulum of Available Mass” and write its detailed procedure and analysis along with calculations and findings. **(20)**

Q. 3 Discuss the principle of the Maxwell needle experiment. Also, describe the modulus of rigidity. What happens to the Modulus of Rigidity with temperature variation? **(20)**

Q. 4 (i) What is C.R.O.? Explain the working of C.R.O. with a diagram. **(10)**

 (ii) Derive relation for velocities of sound also explains the procedure for derivation of relationship. **(10)**

Q. 5 Explain the working of the spectrometer. What is total internal reflection? Establish a connection between Critical angle and refractive index. **(20)**

**Total Marks 100 Pass Marks: 40**

**ASSIGNMENT No. 2**

**Units: (5–9)**

Q. 1 Write down the complete procedure and calculation of the “Conversion of galvanometer into ammeter” experiment. Also, provide a procedure for how to find the length of a shunt resistance.. **(20)**

Q. 2 What is saturation in magnetic material? Why B-H curve is different for different materials? **(20)**

Q. 3 Explain in detail JJ Thomson’s experiment of “Determination of e/mof an electron”and its theory. **(20)**

Q. 4 How to use diodes as reverse and forward biased. Write the complete procedure along with their Voltage-current Graphs. **(20)**

Q. 5 Answer the Following Question: **(5 x 4= 20)**

1. What are pentavalent impurities?
2. What are trivalent impurities?
3. What do you mean by cut-in voltage?
4. What is the effect of temperature on the diode's reverse characteristics?

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