

**PHYSICS PRACTICAL**  
**GENERAL**  
**SEM 2**  
**PAPER: PHSG – CC2 /GE2 P**  
**TOTAL MARKS: 30**

**Answer all**

**5X6**

1. State and derive the tangent law of magnetism. Write down the working formulas to find the horizontal component of earth's magnetic field. 3+3
2. What is Wheatstone bridge principle? How one can determine the unknown low resistance by Carey Foster's bridge experiment. Briefly discuss (working formula). 1+5
3. Derive the necessary formula to find the internal resistance of a voltmeter by half deflection method. Calculate the Shunt resistance ( $R_{sh}$ ) to be used in order to convert a 0-10 volt voltmeter to a 0-100 mA ammeter. Let the internal resistance of the voltmeter is 10 kohm. 3+3
4. How the internal resistance of an ammeter can be measured (Explain with the help of circuit diagram). Calculate the Series resistance ( $R_s$ ) to be used in order to convert a 0-100 mA ammeter to a 0-1 volt voltmeter. Let the internal resistance of the ammeter is 100 ohm 3+3
5. What do you mean by potentiometer? With the help of a potentiometer briefly explain the procedure (working formula) to measure the current flowing through a resistance. 1+5

**NOTE:** Answer can be written in either English or Bengali language as per one's convenience.

Scanned copy (not image file only pdf) of answer script must be sent to the mail id: [snechphys@gmail.com](mailto:snechphys@gmail.com)