FEDERAL BOARD OF INTERMEDIATE AND SECONDARY EDUCATION
H-8/4, ISLAMABAD

PHYSICS HSSC
(National Curriculum 2006)
PRACTICAL EXAMINATION

S #	List of Practicals
1.	Measure length and diameter of a solid cylinder and hence estimate its volume quoting proper number of significant figures using Vernier calipers.
2.	Measure the diameters of a few ball bearings of different sizes using Screw Gauge and estimate their volumes. Mention the uncertainty in each result.
3.	Determine the radius of curvature of convex lens and a concave lens using a spherometer.
4.	Determine the weight of a body by vector addition of forces.
5.	Verify the two conditions of equilibrium using a suspended metre rod.
6.	Investigate the value of 'g' by free fall method using electronic timer.
7.	Investigate the downward force, along an inclined plane, acting on a roller due to gravity and study its relationship with the angle of inclination by plotting graph between force and sinϴ.
8.	Determine the moment of inertia of a fly wheel.
9.	Investigate the fall of spherical steel balls through a viscous medium and determine. (i) terminal velocity (ii) coefficient of viscosity of the fluid
10.	Verify that the time period of the simple pendulum is directly proportional to the square root of its length and hence find the value of 'g' from the graph.
11.	Determine the acceleration due to gravity by oscillating mass-spring system.
12.	Determination of frequency of A.C by Melde's apparatus / electric sonometer.
13.	Investigation of the laws of vibration of stretched strings by sonometer or electromagnetic method.
14.	Determine the wavelength of sound in air using stationary waves and to calculatethe speed of sound using resonance tube.
15.	Measure the mechanical equivalent of heat by electric method.
16.	Determine the specific heat of a solid by electrical method.
17.	Determine time constant by charging and discharging a capacitor through a resistor.
18.	Determine resistance of wire by slide Wire Bridge.
19.	Determine resistance of voltmeter by drawing graph between R and I/V.
20.	Determine resistance of voltmeter by discharging a capacitor through it.
21.	Analyse the variation of resistance of thermistor with temperature.
22.	Determine internal resistance of a cell using potentiometer.
23.	Determine emf of a cell using potentiometer.
24.	Determine the emf and internal resistance of a cell by plotting V against I graph.
25.	Investigate the relationship between current passing through a tungsten filament lamp and

	the potential applied across it.
26.	Convert a galvanometer into voltmeter of range 0 – 3 V.
27.	Determine the relation between current and capacitance when different capacitors are used in AC circuit using different series and parallel combinationsof capacitors.
28.	Determine the impedance of a RL circuit at 50Hz and hence find inductance.
29.	Determine the impedance of a RC circuit at 50Hz and hence find capacitance.
30.	Draw characteristics of semiconductor diode and calculate forward and reverse current resistances.
31.	Study of the variation of electric current with intensity of light using a photocell.

Questions to be asked in place of Practical Notebook and Viva Voce. **(**Total Marks 08)
Write answers of any Four of the following questions on your answer sheet.

Q.NO	Questions	Marks
1.	What is meant by least count? Calculate the least count of Vernier calliper having 20 divs of Vernier scale.	**(2)**
2.	What is sonometer? By using sonometer differentiate between law of length and law of tension.	**(2)**
3.	Define time constant for capacitor. How the time constant can be changed?	**(2)**
4.	What is PN junction? How does it work as a rectifier?	**(2)**
5.	Why is a rheostat used in a circuit? On what factors resistance of conductor depends?	**(2)**

Note: The above questions will be asked from students as replacement of the marks of Practical Notebook and Viva Voce. The rest of the conduct/format of practical examination will continue as per practice in vogue.