FIRST YEAR BPT EXAM
PAPER IV – BASIC AND APPLIED PHYSICS FOR PHYSIOTHERAPY
Q.P. Code : 746254

Time: Three Hours   **Maximum: 100 marks**
    (180 Min)   **Answer ALL questions in the same order.**

I. Elaborate on:

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Describe the axes and planes in relation to movements in human body with examples.	19	33	20
2. Define thermionic valves and thermionic emission: List the types of valves and construction and application of cathode ray oscilloscope.	19	33	20

II. Write notes on:

1. DC Currents.	3	8	5
2. Newton's Laws.	3	8	5
3. Cosine law and its implications.	3	8	5
4. Properties of Magnet.	3	8	5
5. Medium frequency Currents.	3	8	5
6. Define Springs and its properties.	3	8	5
7. Wheat stone bridge.	3	8	5
8. Ammeter.	3	8	5

III. Short Answers on:

1. Define force and its components.	1	5	2
2. Define choke coil.	1	5	2
3. Fixation and stabilization	1	5	2
4. S-D Curve	1	5	2
5. Speed	1	5	2
6. Momentum	1	5	2
7. Electrical field.	1	5	2
8. Static equilibrium.	1	5	2
9. Voltmeter.	1	5	2
10. Electromagnetic spectrum	1	5	2

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I. Elaborate on: **(2X20=40)**

1. Define levers. Explain the function, classification and application of levers in physiotherapy & order of levers with example of lever in human body.
2. Explain in detail about the Newton's laws.

II. Write Notes on: **(8X5=40)**
1. Wheatstone bridge.
2. Cosine law and its implications.
3. Electric shock.
4. Pulleys.
5. Ammeters.
6. Rectifiers.
7. Electromagnetic Induction.
8. Properties of a magnet.

III. Short Answer: **(10X2=20)**
1. Faraday's Law.
2. Eddy currents.
3. Law of Grotthus.
4. Concurrent forces.
5. Impedance.
6. Low frequency currents.
7. Centre of Gravity.
8. Define Velocity.
9. Shunt Rheostat.
10. EMF.

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Time: Three Hours   **Maximum: 100 marks**

I. Elaborate on: **(2X20=40)**

1. Define Equilibrium. Explain about the types and equilibrium in static & dynamic state how its related to physiotherapy?
2. Define electric current. Explain in detail about thermal, chemical and magnetic effects of electric current.

II. Write Notes on: **(8X5=40)**

1. Force – definition, classification and composition
2. Capacitors
3. Rheostat
4. Physical effect of heat & radiation
5. Law of Grotthus and its implication
6. Semi-conductors.
7. Gravity
8. Springs in series & Parallel.

III. Short Answers: **(10X2=20)**

1. State Hooke's law
2. Ohm's Law
3. Cosine Law
4. Define Work
5. Define Momentum
6. Friction
7. Triode valve
8. Electric Shock
9. Lenz's Law
10. Voltmeter.

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