

Year 2
Big Test Questions
Oral Part

1. STATIONARY MAGNETIC FIELD

- a) Define stationary magnetic field + examples
- b) Number of poles, monomagnet?
- c) Which poles repel/ attract? Magnetic force between 2 parallel conductors.

2. MAGNETIC FIELD LINES

- a) Explain the term magnetic line
- b) Basic properties, draw the pattern N+N, N+S
- c) Plotting compass & Compass

3. MAGNETS

- a) Explain domains, induced magnetism
- b) Hard, soft, non-magnetic materials
- c) Permanent, temporary magnetism, hysteresis loop

4. FLEMING & LENTZ

- a) Compare Fleming's and Lenz's law (explain differences)
- b) Induced current experiment
- c) Magnetic flux (max, min, formula, unit)

5. ELECTROMAGNETIC PRINCIPLE

- a) Who discovered this effect?
- b) Characterize this principle
- c) How can we increase EM field?

6. TRANSFORMER

- a) Definition of transformer, coil
- b) Structure, principle (step-up, step-down transformation)
- c) Transformer coefficients

7. CURRENT VOLTAGE – TIME GRAPH

- a) Draw this graph
- b) Characterize switch on/off part
- c) Voltage problem (bulb) + formulae

8. GENERATOR

- a) definition
- b) Structure and principle of one-phase generator – dynamo
- c) 3-phase generator (stator, rotor, late)

9. SIMPLE HARMONIC MOTION

- a) What's harmonic motion, wave
- b) Define: frequency, period, velocity of propagation, damping, overdamping
- c) praxis

10. ENERGY

- a) What's oscillator + structure
- b) Total energy, formula, kinetic and potential energy
- c) Changing energy

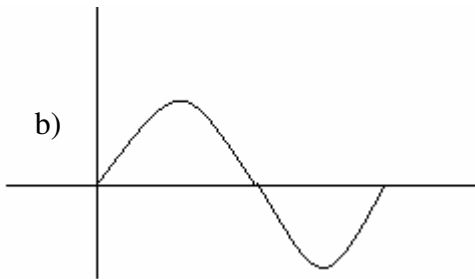
11. SPRING OSCILLATOR & SIMPLE PENDULUM

- a) Compare principle
- b) Explain all differences
- c) Explain formulae

12. FORCED OSCILLATION

- a) Example (what I need, explain principle)
- b) Structure
- c) Praxis

13. WAVE



- a) explain:
Equilibrium, period, wavelength, frequency,
amplitude, node, antinodes.....

14. RESONANCE

- a) Definition
- b) Practical application
- c) Damping

15. THEORY

- a) Mutual, self induction
- b) Coil, inductance
- c) Define 1 TESLA, 1 AMPERE