XII STANDARD PHYSICS (MARCH 2020, SEP 2020, AUG 2021, MAY 2022 AND JULY 2022)

5 MARK PUBLIC QUESTIONS SO FAR ….. UNIT WISE

UNIT:1 ELECTROSTATICS

1. Gauss law and its first application (infinite long charged wire)
2. Axial line
3. Dielectric filled capacitor without battery
4. Electric potential due to dipole
5. Van de Graaff

UNIT: 2 CURRENT ELECTRICITY

1. EMF comparison
2. Wheatstone's bridge (Two times)
3. Resistors in series and solved sum 2.3
4. Internal resistance using voltmeter

UNIT: 3 MAGNETISM AND MAGNETIC EFFECTS

1. Force between two long parallel wires
2. Ampere circuital law and magnetic induction due to infinitely long conductor
3. Biot – Savart law application 1 - Infinitely long straight conductor carrying current (Two times)
4. Force on a current carrying conductor in a uniform magnetic field

UNIT: 4 EMI AND AC

1. Orientation of the coil
2. AC with inductor
3. RLC circuit
4. Transformer
5. Mutual inductance between a pair of coils

UNIT: 5 EMW

1. Maxwell's equations in integral form (Two times)
2. Characteristics of EM waves and 5.2 sum
3. Characteristics of EM waves and 5.3 sum
4. Spectrum and Types of Emission spectra

UNIT: 6 RAY OPTICS

1. Mirror equation and lateral magnification
2. Lens makers and lens equation (Three times)
3. Fizeau method
4. Refractive index of a prism

UNIT: 7 WAVE OPTICS

1. Young's double slit – Band width
2. Compound microscope
3. Astronomical telescope

UNIT: 8 DUAL NATURE OF RADIATION AND MATTER

1. Davisson – Germer
2. de Broglie wavelength of electron and sum 8.6
3. Einstein's photoelectric equation and created theory question
4. Einstein's photoelectric equation and characteristics of photons
5. Characteristic X-ray spectra and sum 8.9

UNIT: 9 ATOMIC AND NUCLEAR PHYSICS

1. Bohr theory – Energy expression and created sum
2. Bohr theory – Radius expression
3. Law of radio active decay
4. Spectral series of hydrogen
5. Half life, mean life and sum 9.12

UNIT: 10 ELECTRONICS AND COMMUNICATION

1. Transistor as an oscillator
2. Transistor as an amplifier
3. De Morgan's theorems
4. Full wave rectifier
5. Frequency modulation – Adv and limitations

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3 MARK PUBLIC QUESTIONS SO FAR ….. UNIT WISE

UNIT:1 ELECTROSTATICS

1. Capacitors in parallel
2. Gauss law from Coulomb's law
3. Energy stored in a capacitor (2 times)
4. Capacitors in series

UNIT: 2 CURRENT ELECTRICITY

1. Kirchoff's current and voltage law (2 times)
2. Relation between current and drift velocity
3. Unsolved sum 4 – Data changed
4. Seebeck effect and its applications

UNIT: 3 MAGNETISM AND MAGNETIC EFFECTS

1. Conversion of galvanometer into voltmeter
2. Magnetic Lorentz force
3. Comparison of dia, para and ferro
4. Solved sum 3.5
5. Solved sum 3.19

UNIT: 4 EMI AND AC

1. AC is advantageous than DC. Explain
2. Adv and Dis adv of AC over DC. Explain.
3. Solved sum 4.22
4. Solved sum 4.23
5. Energy losses of a transformer

UNIT: 5 EMW

UNIT: 6 RAY OPTICS

1. Total internal reflection and its conditions
2. Critical angle and Total internal reflection
3. Relation between f and R
4. Solved sum 6.6

UNIT: 7 WAVE OPTICS

1. Interference and diffraction differences (2 times)
2. Uses of polaroids
3. Solved 7.3

UNIT: 8 DUAL NATURE OF RADIATION AND MATTER

1. Characteristics of photons (2 times)
2. Laws of photoelectric effect
3. de Broglie wavelength of electron
4. Photo emissive cell

UNIT: 9 ATOMIC AND NUCLEAR PHYSICS

1. Properties of cathode rays
2. Solved sum 9.2
3. BE / A curve important inferences
4. Created sum based on alpha, beta and gamma decay
5. Unsolved sum 9.6

UNIT: 10 ELECTRONICS AND COMMUNICATION

1. Solved 10.6
2. Fibre optic communication gains popularity …….
3. Circuit diagram of full wave and input, output waveforms
4. NPN – CE diagram
5. Zener diode and its uses

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2 MARK PUBLIC QUESTIONS SO FAR ….. UNIT WISE

UNIT:1 ELECTROSTATICS

1. Corona discharge (2 times) 2. Electrostatic potential 3. Gauss law
4. Created sum 5. Van de graaff sum 1. 24 data changed

UNIT: 2 CURRENT ELECTRICITY

1. Solved sum 2.2 2. Peltier effect 3. Electrical resistivity 4. Solved sum 2.8 data change

UNIT: 3 MAGNETISM AND MAGNETIC EFFECTS

1. Define ampere in terms of force 2. How will you increase current sensitivity
3. Ampere circuital law 4. Solved sum 3.10

UNIT: 4 EMI AND AC

1. Methods of producing induced emf (2 times) 2. Fleming's right hand rule
3. Solved sum 4.16 4. Lenz law

UNIT: 5 EMW

1. Displacement current 2. 3. Uses of UV
4. Uses of IR 5. Uses of X - rays

UNIT: 6 RAY OPTICS

1. Paraxial and marginal rays 2. Sky appears blue
3. Solved sum 6.21 4. Solved sum 6.5

UNIT: 7 WAVE OPTICS

1. Fresnel and Fraunhofer diffraction 2. Solved sum 7. 17

UNIT: 8 DUAL NATURE OF RADIATION AND MATTER

1. Why electron is preferred over X-rays in electron microscope
2. Threshold frequency 3. Work function and unit 4. Stopping potential
5. Photovoltaic cell

UNIT: 9 ATOMIC AND NUCLEAR PHYSICS

1. Constituent particles of proton and neutron 2. Atomic mass unit
3. Solved sum 9.7 4. Properties of neutrino

UNIT: 10 ELECTRONICS AND COMMUNICATION

1. Skip area 2. Doping (2 times) 3. Rectification 4. Skip distance