10th CLASS PHYSICS GUESS PAPER 2022.

UNIT NO. 10 SIMPLE HARMONIC MOTION AND WAVES.

SHORT QUESTIONS.

1. Define simple pendulum and write the formula of its time period. M.I
2. Write two characteristics of simple harmonic motion. M.I
3. What are damped oscillations? Explain it. M.I
4. What is meant by time period?
5. How can you define the term wave? M.I
6. What is meant by diffraction of wave?
7. Difference between longitudinal and transverse wave with suitable example. M.I
8. Define Ripple tank?
9. Define wave.
10. Derive a relation between speed, frequency, and wavelength. M.I
11. Define refraction of waves. M.I
12. Define longitudinal wave.
13. What is meant by electromagnetic wave?
14. What is meant by compressions?

LONG QUESTIONS.

1. What are damped oscillations? Explain it. M.I
2. What is meant by simple harmonic motion? Explain it with example of simple Pendulum. M.I.
3. Define simple harmonic motion and prove that motion of ball in ball and bowl system is simple harmonic motion.
4. Difference between mechanical waves and electromagnetic waves with suitable example. M.I
5. Prove that motion of a mass attached to a spring is simple harmonic motion. M.I
6. NUMERICAL PROBLEM: 10.4,10.5

UNIT NO. 11. SOUND.

SHORT QUESTIONS.

1. Define quality of sound.
2. What is meant by echo of sound? M.I
3. What is SONAR? M.I
4. What is meant by loudness?
5. Write two factors on which safe level of noise depends? M.I
6. What is meant by audible frequency range?
7. Why ultrasound in useful in medical field. M.I
8. Define pitch
9. Define the intensity of sound.
10. Difference between frequency and pitch. M.I
11. Write two characteristics of sound. M.I
12. Difference between musical sound and noise. M.I
13. What is the audible frequency range for human ear?
14. What is tuning fork?
15. Define mechanical waves and write name of its types. M.I
16. Define reflection of sound.
17. Define ultrasonic waves? M.I

LONG QUESTIONS.

1. What are mechanical waves? Describe its types with example. M.I
2. NUMERICAL PROBLEMS: 11.2, 11.4,11.5, 11.9

UNIT NO. 12 GEOMETRICAL OPTICS.

SHORT QUESTIONS.

1. Difference between convex mirror and concave mirror. M.I
2. What is meant by power of lenses? What is its unit?
3. Define spherical mirrors. M.I
4. Define pole of mirror.
5. Difference between regular and irregular reflection. M.I
6. State law of refraction.
7. Define power of lens.
8. If P = 6 cm, F = 10 cm mirror is concave find q? M.I
9. What is endoscope? M.I
10. Define statoscope and gastroscopy. M.I
11. Write two uses optical fibre.
12. Define critical angle?
13. Draw the ray diagram of refraction telescope.
14. Define refractive index.
15. Define mirror formula. M.I

LONG QUESTIONS.

1. What are optical fibres? Describe how total internal reflection is used in light propagation through optic fibres. M.I
2. State the reflection of light and explain law of reflection. M.I
3. Explain the refraction through convex lens by making ray diagram.
4. NUMERICAL PROBLEMS: 12.2, 12.3, 12.4, 12.10, 12.12.

UNIT NO. 13 ELECTROSTATICS.

SHORT QUESTIONS.

1. What is electroscope? M.I
2. How can be identified conductors and insulators by electroscope?
3. Define variable capacitor and fixed capacitor. M.I
4. Write two uses of capacitor. M.I
5. Define coulomb law? M.I
6. What is meant by electrostatic induction?
7. Define mica capacitor?
8. Write any application of electrostatics.
9. Define the unit of electric field intensity. M.I
10. Define capacitance. M.I
11. Define electrical potential.
12. How does electrostatic induction differ from charging by friction?
13. Define S.I. unit of capacitance. M.I
14. If electric intensity a vector quantity what will be its direction. M.I.
15. What do you know about paper capacitor? M.I

LONG QUESTIONS.

1. Explain one application and one hazard of static electricity. M.I.
2. Explain Coulomb's law derive its mathematical formula.
3. NUMERICAL PROBLEMS: 13,1, 13.4, 13.8 TO 13.10
4. EXAMPLE: 13.3

UNIT NO. 14 CURRENT ELECTRICITY.

SHORT QUESTIONS.

1. State Ohm's law. What are its limitations? M.I
2. Difference between Insulator and conductor. M.I
3. Difference between A.C and D.C current. M.I
4. Difference between cell ad batteries.
5. Difference between ohmic conductor and non ohmic conductor M.I
6. What is the work of fuse?
7. Define kilo watt hour.
8. Define electric current and write its mathematical expression. M.I
9. Define electric power? What is S.I. Unit electric power? M.I
10. Define unit of current.
11. Define Joule's law. M.I
12. What is Damp conditions?
13. What is circuit breaker?
14. How many watt-hours are in 1000 Jules?
15. Difference between galvanometer and ammeter. M.I
16. Prove that 1 kWh = 3.6 MJ?
17. Define resistance and unit of resistance.
18. Define Conventional current. M.I

LONG QUESTIONS.

1. State Joule's law and derive its mathematical formula. M.I.
2. Discuss the main features of series combination of resistance. M.I
3. NUMERICAL PROBLEMS: 14.4, Example :14.2

UNIT NO. 15 ELECTROMAGNETISM.

SHORT QUESTIONS.

1. Define Lenz' law. M.I
2. Define Mutual induction. M.I
3. Define Electromagnetic
4. Define Fleming's left hand rule.
5. Define D.C. motor. M.I
6. Define Electromagnetic induction. M.I
7. What is transformer? M.I
8. What is electric motor?
9. Explain the working principle of D.C. motor. M.I
10. What is meant by step down transformer? M.I
11. Write the principle of A.C. Generator.
12. What is the basis of MRI technique? M.I
13. What is Faraday's law of electromagnetic induction? M.I
14. Define Ideal transformer. M.I
15. Define Relay M.I

LONG QUESTIONS.

1. What is electric motor? Write the principle of D.C. Motor. M.I
2. NUMERICAL PROBLEMS: 15.1 , 15.2

UNIT NO. 16 BASIC ELECTRONICS.

SHORT QUESTIONS.

1. Define digital electronics.
2. Define electronics.
3. Define thermionic emission.
4. Differentiate between digital and analogue quantities. M.I
5. Construct truth table of AND gate. M.I
6. NAND is a universal gate, give its symbol and truth table. M.I
7. Draw diagram of NAND gate and write its truth table. M.I
8. Describe the uses of cathode ray oscilloscope. M.I
9. Define electric gun? M.I
10. Difference between analogue and digital electronics. M.I
11. Write down the symbol of OR gate.
12. What is meant by digital to analogue converter?
13. What are logic gate.

LONG QUESTIONS.

1. Draw the circuit diagram and AND operation and OR operation and also write the truth table of both these operation. M.I
2. What is electron gun? Explain the process of thermionic emission. M.I

UNIT NO. 17 INFORMATION AND COMMUNICATION TECHNOLOGY.

SHORT QUESTIONS.

1. Difference between Data and Information. M.I
2. Difference between Primary memory and secondary memory. M.I
3. Difference between hardware and software. M.I
4. Define word processing. M.I
5. What is data managing?
6. Difference between RAM and ROM. M.I
7. Define Information Technology. M.I
8. Define Telecommunication? M.I
9. What is flash drive?
10. What is hard disc?
11. What is meant by compact disk?
12. Define operating system and give an example.
13. Write two advantage is of e-mail. M.I
14. Define digital electronics.

LONG QUESTIONS.

1. Explain in detail about compact disc and flash disk. M.I
2. Difference between hardware and software. Also write name of different hardware's and software. M.I

UNIT NO. 18 ATOMIC AND NUCLEAR PHYSICS.

SHORT QUESTIONS.

1. What is neutron number?
2. Define Isotopes.
3. Write two common hazards of radiation.
4. Write two characterization of beta radiation M.I
5. Define Half-life.
6. Define radioactive isotopes.
7. What do you mean by carbon dating? M.I
8. Define fission reaction. M.I
9. What is meant by half-life of radioactive element?
10. Describe two uses of radio isotopes. M.I
11. Define nuclear fusion and write its equation. M.I
12. What do you mean by background radiations? M.I

LONG QUESTIONS.

1. Explain briefly the transmission of radio-waves in space. M.I
2. What is meant by radio isotopes? Describe that uses in medicine and industry. M.I
3. NUMERICAL PROBLEMS: 18.2, 18.318.9