Q.24 Define work and power and give their SI unit.

Q.25 State and explain law of conservation of linear momentum.

Q.26 Explain the principle of working of bimetallic thermometer.

Q.27 Calculate the equivalent resistance, when three resistances of 5 ohm each are connected in parallel.

Q.28 Define absolute and relative error.

Q.29 Write any five applications of optical fibre.

Q.30 Derive the expression for electric field intensity due to a straight charged conductor.

Q.31 Define electric flux and electric potential.

Q.32 Explain coulomb's law in electrostatics.

Q.33 Define centripetal and centrifugal force.

Q.34 Explain resonant vibrations with example.

Q.35 Write any five characteristics of electric lines of force.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain grouping of capacitors in series and parallel combination.

Q.37 State and explain Newton's laws of motion with example.

Q.38 Explain characteristics and applications of laser.

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Roll No. .....

1st year/Branch : Advance Diploma In Tool and Die Making

Subject:- Applied Physics

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Heat is defined as

a) Total kinetic energy
b) Total mechanical energy
c) Average kinetic energy
d) Average potential energy

Q.2 Pascal is the SI unit of

a) Force b) Momentum
c) Impulse d) Pressure

Q.3 Swimming is an example of

a) Conservation of momentum
b) Conservation of mass
c) Conservation of inertia
d) Law of action-reaction

Q.4 Bending of waves around corners of an obstacle is called_____.

a) Interference b) Mirage
c) Refraction d) Diffraction

Q.5 In an auditorium or big hall, excessive reverberation is_____.

a) Zero b) Desirable

c) Undesirable d) None of the above

Q.6 Light waves are

a) Longitudinal b) Mechanical

c) Electromagnetic d) None of the above

Q.7 Magnetic lines of force

a) Form closed continuous loops

b) Start from north pole inside the magnet

c) Cross each other

d) Attract each other

Q.8 SI unit of charge is

a) Ampere b) Coulomb

c) Newton d) None of these

Q.9 Friction is a_____

a) Contact force b) Non-contact force

c) Magnetic force d) None of these

Q.10 Which of the following is not the application of ultrasonic?

a) Drilling b) Cleaning

c) Sonar d) Radar

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 The absolute scale for temperature is_____

Q.12 Echo is caused due to _____of sound.

Q.13 The velocity of sound waves in vacuum is_____.

Q.14 Changing path of light while entering second medium is called_____

Q.15 _____law states that total electric flux through a closed surface is equal to netcharge enclosed divided by permittivity of medium.

Q.16 Give the formula for magnifying power of compound microscope.

Q.17 Resistance is reciprocal of_____

Q.18 Give the formula for moment of inertia of a sphere about its diameter.

Q.19 Conduction is the process of heat transfer in_____

Q.20 Define echo.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Define superposition of waves and interference.

Q.22 State and explain principle of homogeneity of dimensions with an example.

Q.23 Explain provost's theory of heat exchange.