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

Q.27 Write any five characteristics of heat radiations.

Q.28 Explain resonant vibrations with example.

Q.29 Write characteristics of laser.

Q.30 State and explain coulomb's law in electrostatics

Q.31 Define electric flux and electric potential.

Q.32 A man weighing 60 kg lifts a mass of 30 kg to the top of a building 10 meters high in 12 second. Find

I) Total work done by him

ii) The power developed by him

Q.33 Define centripetal and centrifugal force.

Q.34 Define free and force vibrations.

Q.35 Calculate the equivalent resistance, when three resistance of 10 ohm each are connected in parallel

SECTION-D

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

Q.36 State and prove law of conservation of energy.

Q.37 a) Define diamagnetic and paramagnetic materials with an example of each.

b) State and explain Kirchhoff's law of current and voltage.

Q.38 Define and Explain modes of transfer of heat giving example of each mode.

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Roll No. .....

Tool and Die
Subject:- Applied Physics

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The minimum energy required to raise as electron from inner orbit to outer orbit is called

a) Ionization energy b) Electric energy

c) Excitation energy d) None of the above

Q.2 Kgm/s^2 is the SI unit of

a) Force b) Momentum

c) Impulse d) Pressure

Q.3 Walking is an example of

a) Conservation of momentum

b) Conservation of mass

c) Conservation of inertia

d) Law of action-reaction

Q.4 Pyrometers are used for measuring

a) low temperature b) low pressure

c) high temperature d) high pressure

Q.5 Reverberation is caused due to

a) Refraction b) Diffraction
c) Multiple reflection d) None of them

Q.6 Sound waves are
a) longitudinal b) transverse
c) Electromagnetic d) none of the above

Q.7 Electric lines of force
a) attract each other b) repel each other
c) never cross each other d) oppose each other

Q.8 A bimetallic strip is made of aluminum and steel ($\alpha AI > \alpha Steel$) on heating, the strip will
a) remain straight
b) get twisted
c) will bend with aluminum on concave side due to more expansion of steel
d) will bend with steel on concave side due to more expansion of aluminum

Q.9 A ball moves on a frictionless inclined plane without slipping. The work done by table surface on the ball is
a) zero b) positive
c) negative 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 SI unit of work is _____

Q.12 Rate of change of velocity is called_____

Q.13 Work has same unit as that of _____

Q.14 Angular momentum is a _____quantity.

Q.15 Stefan's law is related to_____power of absolute temperature.

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

Q.17 Conductance 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 Write the formula for standard reverberation time.

SECTION-C

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

Q.21 Define absolute and relative error.

Q.22 Explain resolution of force with example.

Q.23 Define horizontal range and time of flight in a projectile motion.

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

Q.25 Derive the expression for acceleration of a body executing SHM.