

- Q.25 Find the area of rhombus whose diagonals are of length 10 c.m. and 8 c.m.

Q.26 Define refractory and its types giving examples.

Q.27 Define condensation polymerization with suitable example.

Q.28 Define corrosion and also write three methods for its prevention

Q.29 Write properties and uses of iron.

Q.30 Draw flow diagram of manufacturing of steel.

Q.31 Explain types of intermolecular forces.

Q.32 Explain any five methods to control reverberation.

Q.33 Explain free and resonant vibrations with examples.

Q.34 Explain working of platinum resistance thermometer.

Q.35 Explain greenhouse effect.

SECTION-D

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

Q.36 Prove that $\tan 8^\circ = \frac{\cos 37^\circ - \sin 37^\circ}{\cos 37^\circ + \sin 37^\circ}$

- Q.37 a) Define thermo plastic and thermo setting plastic
b) Write five applications of plastic in industries.

Q.38 State and prove law of conservation of energy

No. of Printed Pages : 4

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120216/030216

1st Sem / Branch : Architecture
Subject:- Applied Science and Mathematics

Time : 3Hrs.

M.M. : 100

SECTION-A

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

Q.5 Hooke's process is related to

- a) Copper b) Aluminium
- c) Steel d) Iron

Q.6 The monomer of polythene is

- a) Ethylene b) Propene
- c) Vinyl chloride d) None of the above

Q.7 An open window is a

- a) 0% absorber b) 50% absorber
- c) 100% absorber d) None of the above

Q.8 SI unit of force is

- a) Kelvin b) Lumen
- c) newton d) dyne

Q.9 SI unit of temperature is

- a) Newton b) Joule
- c) Erg d) Kelvin

Q.10 The ratio of force per unit area is

- a) Stress
- b) Strain
- c) Modulus of elasticity
- d) None of the above

SECTION-B

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

Q.11 $\frac{d}{dx} (a^x) = \dots$

Q.12 $\frac{d}{dx} (\tan x) = \dots$

Q.13 The exponential form of $\log^3 243$ is.....

Q.14 $\int \sec x \tan x \, dx = \dots$

Q.15 Write one example of unsaturated hydrocarbon.

Q.16 Write one use of copper.

Q.17 The process of making a structure water resistant is called.....

Q.18 A greenhouse is used for.....

Q.19 Absorbing materialthe reverberation time.

Q.20 SI unit of mass is.....

SECTION-C

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

Q.21 Find the height of cylinder with a circular base of radius 20 c.m. and volume 132000 cubic centimeter.

Q.22 Differentiate $y = \cos x e^{\sin x}$ w.r.t.x

Q.23 Evaluate that $\frac{\cos 23^\circ + \sin 23^\circ}{\cos 23^\circ - \sin 23^\circ}$

Q.24 Evaluate $\int (1 - \frac{1}{x\sqrt{x}}) \sqrt{x} \, dx$