

APPLIEDSCIENCE [15SC03S]

UNIT – 1 MECHANICS			
Sl.No	Questions	Marks	Year
1.	Define unit of a physical quantity.	2	Apr-2016/Apr-2018/Nov-2018
2.	Define pitch of a screw.	2	Apr-2016/Nov-2016/Nov-2018
3.	Name fundamental physical quantities and give their S.I, units.	2	Apr-2019
4.	Define least count of a measuring instrument.	2	Nov-2016/Apr-2017 Nov-2015/Nov-2017
5.	Define moment of force.	2	Nov-2015/Nov-2016/Nov-2018
6.	State law of Parallelogram of forces	2	Apr-2017/Nov-2017
7.	State law of triangle of forces	2	Apr-2019
8.	Define Couple	2	Apr-2018
9.	Define Resultant	2	Apr-2018
10.	Define principle of Vernier Callipers.	2	Apr-2018
11.	Write the conditions of equilibrium when number of co-planar forces acting on a body.	2	Nov-2015/Nov-2017/ Nov-2018 / Apr-2019
12.	Draw a neat diagram of Vernier Callipers and label its parts	5	Apr-2016/Nov-2017 Apr-2018
13.	Draw a neat diagram of Screw Gauge and label its parts.	5	Apr-2017/Nov-2016 Nov-2015/ Nov-2018 / Apr-2019
14.	Define like & unlike parallel forces.	5	Nov-2016/ Nov-2018 / Apr-2019
15.	Write the difference between scalars & vectors. Give two examples for each	5	Apr-2016
16.	Write the advantages of S.I system	5	Nov-2015
17.	List 7 basic S.I units with their physical quantities.	5	Nov-2016/Apr-2018 / Apr-2019
18.	Describe an experiment to verify Law of Parallelogram of forces.	6	Nov-2016/Nov-2017/ Nov-2018
19.	Describe an experiment to verify Lami's theorem	6	Apr-2016/Nov-2018 / Apr-2019
20.	Derive an expression for magnitude & direction of resultant of two vectors.	6	Apr-2017/ Apr-2018

UNIT – 2 PROPERTIES OF SOLIDS AND LIQUIDS			
Sl.No	Questions	Marks	Year
1.	Defining Stress, write its S.I unit.	2	Nov-2016/Nov-2017
2.	Define elasticity	2	Nov-2015/ Nov-2018
3.	Define deforming force	2	Apr-2018

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4.	Define Angle of contact	2	Apr-2017/ Apr-2019
5.	Define viscosity. List any two applications of viscosity.	5	Apr-2018/ Nov-2018/ Apr-2019
6.	State Hooke's law	2	Apr-2019
7.	Explain Stress-Strain graph.	5	Nov-2016/ Apr-2017
8.	Define : tensile stress and shear stress and write unit of stress	5	Apr-2019
9.	Define Capillarity & write its applications	5	Apr-2016/ Apr-2017
10.	Explain Streamline flow & Turbulent flow of liquids with examples.	5	Apr-2017/ Nov-2017 Apr-2018/ Nov-2018
11.	Define surface tension and write any four applications of surface tension.	5	Nov-2015/Nov-2016/ Nov-2018
12.	Define cohesive & adhesive force with one example.	5	Apr-2016/ Nov-2017
13.	Define Thrust. Derive $P = \rho gh$ for a liquid at rest.	5	Nov-2015/Nov-2016/ Apr-2019
14.	Describe an experiment to determine Surface Tension of water by capillary rise method.	6	Nov-2017
15.	Describe an experiment to determine coefficient of viscosity of water by Poiseuille's method	6	Apr-2017/ Nov-2018/ Apr-2019
16.	Defining Young's modulus, obtain an expression for Young's modulus.	6	Nov-2016/ Nov-2018
17.	Derive an expression for coefficient of viscosity of liquid. Write effect of temp on viscosity of liquids.	6	Apr-2018
18.	State & explain Bernoulli's Theorem.	5	Apr-2018/ Nov-2018

UNIT-3 HEAT AND PROPERTIES OF GASES			
Sl. No	Questions	Marks	Year
1	State Zeroth law of thermodynamics.	2	Apr-2016
2	State Second law of thermodynamics.	2	Apr-2019
3	State Boyle's law	2	Apr-2019
4	Define Specific Heat of substance.	2	Apr-2017/ Nov-2017/ Apr-2018
5	State Boyle's law and Charle's law and write ideal gas equation i.e; $PV = nRT$	5	Apr-2016/Nov-2017/ Apr-2018
6	Define conduction. Write any three applications.	5	Nov-2015/Apr-2016 Nov-2016/ Apr-2018
7	Define radiation and write any three applications.	5	Nov-2017/ Apr-2018
8	Define C_p & C_v & write relationship between them.	5	Nov-2015/Dec-2017/ Nov-2016/Nov-2018
9	Define convection and write any three applications.	5	Nov- 2016/Nov-2018
10	Explain conduction and convection with one example each.	5	Apr-2019

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11	Derive an expression for coefficient of thermal conductivity (K).	5	Apr-2017
12	State I and II law of thermodynamics. Give one practical example for each.	6	Nov-2016/Apr-2017/ Apr-2018/Nov-2018
13	Define isothermal and adiabatic process.	5	Nov-2016
14	Explain three modes of heat transmission.	6	Apr-2016/Nov-2016
15	State Gay-Lussac's law. 2 litre of air at 20c is heated to 80c calculate new volume,if pressure remains constant.	5	Apr-2017/Nov-2018
16	Define temperature. The volume of a gas is 200cc at 25°C. Calculate the volume of the gas at 60°C	6	Apr-2019

UNIT-4		WAVE MOTION	
Sl. No.	Questions	Marks	Year
1	Define periodic motion with example.	2	Apr-2016
2	Define Resonance with an example.	2	Nov-2016/ Apr-2017/ Apr-2019
3	Explain stationary waves & write four characteristics.	5	Apr-2016/ Apr-2018 /Nov-2018/ Apr-2019
4	Distinguish between longitudinal and transverse waves.	5	Apr-2016 Nov-2017
5	Define free and forced vibrations with example.	5	Nov-2016
6	Define beat and write any three applications.	5	Nov-2016/Nov-2018
7	Differentiate mechanical and non-mechanical waves with example.	5	Apr- 2017/Nov-2018
8	Define SHM. Derive an expression for the displacement of particle executing SHM.	5	Nov-2015/Apr-2016/ Apr-2018/Nov-2018/ Apr-2019
9	Explain factors affecting velocity of sound in air.	6	Apr-2016/Nov-2016/ Nov-2017/Nov-2018
10	Discuss Newton- Laplace equation for the velocity of sound in air.	6	Nov-2015/Nov-2016 Nov-2018/ Apr-2019
11	State three laws of transverse vibration of a stretched string.	6	Nov-2017/Apr-2018 Apr-2019
12	Describe an experiment to find the unknown frequency of given tuning fork using sonometer by comparison method.	6	Apr-2016/ Apr-2018

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13	Describe an experiment to determine the velocity of sound in air by resonance air column method.	6	Nov-2015/Nov-2016/ Apr-2017 Apr-2019
14	Describe an experiment to find the unknown frequency of given tuning fork using sonometer by absolute method.	6	Nov-2018

UNIT – 5		MODERN PHYSICS	
Sl.No	Questions	Marks	Year
1	Write principle of optical fiber.	2	Apr-2016/ Nov-2015 Apr-2017
2	Write any 2 applications of X-rays and Gamma-rays.	2	Nov-2016/Apr-2018
	Write uses of microwaves	2	Apr-2019
3	Define electromagnetic waves.	2	Apr-2017/ Apr-2018
4	Define electromagnetic spectrum.	2	Nov-2017
5	Give any two types of Laser.	2	Nov-2015
6	Write any five properties of electromagnetic waves	5	Nov-2016/Apr-2017 Nov-2015
7	Define Nanotechnology and write any 4 advantages of it	5	Nov-2016/Nov-2015 Apr-2018/ Nov-2018/ Apr-2019
8	Define optical fiber and write any 5 applications of optical fiber.	5	Nov-2015/Nov2016 Nov-2017/ Nov-2018
9	Explain Satellite communication and write 4 advantages of satellite communication.	5	Nov-2015/Nov2016 Nov-2017/Apr- 2017Nov-2018
10	Draw Block diagram of communication system and write any 2 disadvantages of Satellite communication.	6	Nov2016/ Apr-2019
11	Expand the term LASER and List 5 applications of Laser.	6	Nov-2017/ Apr-2017 Apr-2018
12	Write the classification of electromagnetic waves.	6	Nov-208

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UNIT-6 INDUSTRIAL CHEMISTRY			
Sl. No.	Questions	Marks	Year
1	Define electrolytes.	2	Apr-2016/Nov-2017/ Apr-2019
2	Define ore & minerals.	2	Nov-2016/Nov-2018
3	Define a solute.	2	Nov-2017
4	Define polymerization.	2	Nov-2015/Nov- 2018Nov-2018
5	Define composite materials & write its advantages.	5	Nov-2015/ Apr-2018
6	Define polymers and write its applications.	5	Apr-2016/ Apr-2018
7	State faradays I & II laws of electrolysis.	5	Nov-2016/Apr- 2017/ Nov-2017/Apr-2018/ Apr-2019
8	Define corrosion & give its methods of prevention.	5	Apr-16/ Nov-16/Apr- 17/ Nov-17/Nov-18
9	Define alloys write three purposes of making alloys.	6	Nov-2016/Apr- 2017Nov-2018
10	Write any five postulates of Arrhenius theory of electrolytic dissociation.	6	Nov-2015/Nov- 2017/Apr-2018
11	Write two types of fuel cells. List ant three advantages.	6	Nov-2016/Nov- 2017Nov-2018
12	Define pH. Explain acid, base and neutral solutions on the basis of pH. & write its applications.	6	Apr-2017/Nov-2017/ Apr-2018/Nov-2018
13	Explain the mechanism of electrolysis.	6	Nov-2015/ Apr-2018
14	Define solute, solvent, and solutions.	5	Apr-2019
15	Define battery. Mention types of batteries and their uses.	6	Apr-2019
16	Explain any three classifications of polymers.	5	Apr-2019