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Roll No. .....

3rd Sem / Mechanical Engineering / Auto Civil
Subject:- Applied Mechanics

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Kinematics is the branch of (CO1)

a) Statics b) Dynamics
c) Kinetics d) None of the above

Q.2 Applied mechanics deals with forces in (CO1)

a) Solids b) Liquids
c) Gases d) All of the above

Q.3 The S.I unit of length is (CO1)

a) Meter b) Foot
c) Yard d) None of the above

Q.4 Force is measure by product of (CO2)

a) Mass and velocity
b) Mass and acceleration
c) Weight and acceleration
d) Momentum and velocity

Q.5 Which of the following is a scalar quantity (CO2)

a) Force b) Velocity
c) Time d) Moment

Q.6 Lami's theorem can be applied when the body is (CO2)

a) Vibrating b) Moving
c) Rotating d) in equilibrium

Q.7 The S.I unit of force is (CO3)

a) Kilogram b) Newton
c) Dyne d) Watt

Q.8 The rotational tendency of a force is called (CO4)

a) Shear force b) Moment
c) Centroid d) Couple

Q.9 It is easier to open the door by applying a force at its (CO5)

a) Outer edge b) Inner edge
c) Centre d) None of the above

Q.10 Centroid lies at the intersection of the diagonals of (CO6)

a) Square b) Rectangle
c) Parallelogram d) All of the above

SECTION-B

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

Q.11 Acceleration is a _____ quantity. (CO1)

Q.12 Weight of a body is_____ at the centre of the earth. (CO1)

Q.13 Define statics. (CO1)

Q.14 Force is a _____ quantity. (CO2)

Q.15 Definition of force follows from newton's _____ law of motion. (CO2)

Q.16 The force which one body exerts on the second is called _____ (CO2)

Q.17 The moment of couple is known as_____ (CO3)

Q.18 The_____ effect of a force is called moment . (CO3)

Q.19 Define gravity. (CO4)

Q.20 Circle has centroid at its_____ (CO5)

SECTION-C

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

Q.21 Write the applications of applied mechanics. (CO1)

Q.22 Name seven fundamental or basic quantities. (CO1)

Q.23 Define coplanar force system and classify it. (CO2)

Q.24 Write the characteristics of a force. (CO2)

Q.25 Define resolved force and component force. (CO2)

Q.26 Explain Bow's notation of a force. (CO2)

Q.27 Write short note on clockwise and anti-clockwise moment. (CO3)

Q.28 State law of moment. (CO3)

Q.29 Differentiate between like and unlike parallel forces. (CO3)

Q.30 Write the importance of friction. (CO4)

Q.31 Explain the methods of reducing the friction. (CO4)

Q.32 Define axis of reference. (CO5)

Q.33 Name the methods of finding out centre of gravity or centroid. (CO5)

Q.34 Derive an expression for the ideal load of a machine. (CO6)

Q.35 Write the applications of simple machine. (CO6)

SECTION-D

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

Q.36 Explain coplanar force system and classify it. (CO2)

Q.37 Find the centroid of an inverted T-section with flange 60 mm x 10 mm and web 50mm x 10 mm (CO4)

Q.38 State and explain law of machine. (CO6)

(**Note:** Course outcome/CO is for office use only)