Sub. Code: 72509/71819/59941

Day and Date: Wednesday, 23-03-2022   **Total Marks: 50**

Time: 02.00 pm to 03.00 pm

Answer Key

			Correct Option
Q. 1)	Forces are called coplanar when all Forces acting on body lie on		B
	A)One point	B)One Plane	
	C)Different Plane	D) Perpendicular plane	
Q. 2)	The resultant of two forces of same magnitude acting in opposite direction will be		B
	A) 2 x F	B) Zero	
	C)F/2	D) 0.707 F	
Q.3)	If two Forces F1 & F2 are acting at an angle of 180 degrees than the Resultant is given by R=		B
	A) R= F1+F2	B) R= F1-F2	
	C) R= F1/F2	D)none of above	
Q. 4)	Algebraic sum of moment of all forces about a point is equal to moment of resultant force about same point is statement of		C
	A) Polygon Law	B) Law of transmissibility	
	C) Varignons theorem	D) Lamis theorem	
Q. 5)	Lami's theorem states that		D
	A) Three forces acting at a point will be in equilibrium	B) Three forces acting at a point can be represented by a triangle, each side being proportional to force	
	C) If three forces acting upon a particle are represented in magnitude and direction by the sides of a triangle, taken in order, they will be in equilibrium	D) If three forces acting at a point are in equilibrium, each force is proportional to the sine of the angle between the other two	
Q. 6)	U.D.L stands for?		D
	A) Uniformly diluted length	B) Uniformly developed load	
	C) Uniaxial distributed load	D) Uniformly distributed load	
Q. 7)	A beam which extends beyond it supports can be termed as _____		C
	A) Overhanging beam	B) Over span beam	

	C) Isolated beams	D) Tee beams		
Q.8)	Reaction of a roller support is always			C
	A) Parallel to Roller Surface	B)Depends on Loading		
	C) Normal to Roller Surface	D) In any Direction		
Q.9)	Virtual work is a product of a) Virtual Force & Displacement b) Force & Virtual Displacement			A
	A) Both statement a & b are true	B) statement a is true & b is false		
	C) Both statement a & b are false	D) statement b is true & a is false		
Q.10)	The units of moment of inertia of an area are			B
	A) kg-m²	B) m^4		
	C) kg/m²	D) m³		
Q.11)	Moment of inertia of a triangular section of base (b) and height (h) about an axis through its base, is			C
	A) $bh^3/4$	B) $bh^3/8$		
	C) $bh^3/12$	D) $bh^3/36$		
Q.12)	Find moment of inertia of rectangle having width b=3cm and Depth is d=5cm about centroidal axis			D
	A)$9.95cm^4$	B)$14.85cm^4$		
	C)$8.45cm^4$	D)$31.25cm^4$		
Q. 13)	What is the formula of theorem of perpendicular axis?			C
	A) $I_{zz} = I_{xx} - I_{yy}$	B) $I_{zz} = I_{xx} + Ah^2$		
	C) $I_{zz} - I_{xx} = I_{yy}$	D) $I_{zz} = I_{xx} - Ah^2$		
Q. 14)	A body is said to be in Absolute motion when the motion is described with respect to a			B
	A)moving reference	B)fixed reference		
	C)both moving & fixed reference	D) none of above		
Q. 15)	D' Alembert's principle is used for			A
	A) Reducing the problem of kinetics to equivalent statics problem	B) Determining stresses in the truss		
	C) Reducing the problem of kinematics to equivalent statics problem	D) Designing safe structures		
Q. 16)	Joule is the unit of			C
	A) Power	B)Impulse		
	C)Work	D)Momentum		
Q. 17)	Which of the following factors are related by work energy principle?			C
	A) force, displacement and time	B) force, velocity, time and mass		
	C) force, velocity, displacement	D) displacement, time and mass		
Q. 18)	When a vehicle is moving in a circular path on a banked road determine lowest speed of car considering condition of overturning			D
	A)√μrg	B) √grb/2h		
	C) √rg(μ+tanα/1-μtanα)	D) √rg(B+2htanα/2h-Btanα)		
Q. 19)	When a vehicle is moving in a circular path on a level road determine lowest speed of car considering condition of skidding			A
	A)√μrg	B) √grb/2h		
	C) √rg(μ+tanα/1-μtanα)	D) √rg(B+2htanα/2h-Btanα)		
Q. 20)	In order to keeps a body moving in a circle there exists a Force on it that is directed towards center of the circle. That force is known as			A
	A)centripetal Force	B)centrifugal Force		
	C)Magnetic Force	D)gravitational force		
Q. 21)	A man weighing W Newton entered a lift which moves with an acceleration of a m/s^2.			

	Find the Force exerted by the man on the floor if lift is moving downward. Acceleration due to gravity is represented by g.		A
	A)W(1-a/g)	B) W-a/g	
	C) W(1+a/g)	D)W+a/g	
Q. 22)	A ball is dropped from a height of 2.25 m on a smooth floor and rises to a height of 1.00 m after the bounce. The coefficient of restitution between the ball and the floor is		D
	A)0.33	B)0.44	
	C)0.57	D)0.67	
Q. 23)	If the velocities of colliding bodies are directed a long line of impact the impact is called		A
	A)Direct Impact	B)Eccentric Impact	
	C)Oblique Impact	D)Line of Impact	
Q. 24)	A ball of mass 1 kg moving with a velocity of 2 m/sec collides a stationary ball of mass 2 kg and comes to rest after impact. The velocity of the second ball after impact will be		B
	A)0	B)1 m/s	
	C)2 m/s	D)0.5 m/s	
Q. 25)	A heavy elastic ball dropped from the ceiling of a room & after rebounding twice from the Floor reaches a height of equal to one half of ceiling. Find coefficient of restitution		B
	A)0.8	B)0.84	
	C)0.7	D)0.74	