Sr.No	Questions	Option A	Option B	Option C	Option D	Ans
1	Two forces can be in equlibrium only if they are	Equal in magnitude	Opposite in direction	Equal in magnitude,Opposite in direction	None of the above	**C**
2	When a body is in equlibrium under 3 nonparallel forces they must be	Non concurrent	concurrent	collinear	None of these	**B**
3	A Simplest resultant of a spatial parallel force system Is always	A resultant couple	A resultant force	A wrench	A resultant force & a resultant couple	**A**
4	For the general case of a space force system, the number of independent conditions of equlibrium are	2	3	4	6	**D**
5	A 3m long beam is supported by a roller (at left) and a hinge (at right). The beam supports a uniformly distributed load of 3kN/m for the first 2 m length and a concentrated load of 300 kN at its mid-span. The reactions at left and right supports are _____	154 kN and 152 kN	100 kN and 206 kN	152 kN and 154 kN	152 kN and 152 kN	**A**
6	The necessary condition of equilibrium of a body, is _____	algebraic sum of horizontal components of all the forces must be zero	algebraic sum of vertical components of all the forces must be zero	algebraic sum of moment of all the forces about a point must be zero	all a), b) and c)	**D**
7	A uniform rod 9 m long weighing 40 N is pivoted at a point 2 m from left end where a weight of 120 N is suspended. The required forces acting at the end in a direction perpendicular to rod to keep it equilibrium at an inclination 60º with horizontal is _____	40 N	60 N	10 N	100 N	**D**
8	A force acts at the origin of a coordinate system in a direction defined by angles θx = 43.20 and θz = 83.80. The angle θy is	42.5	136	132.5	46	**C**
9	If a body in equilibrium condition is acted by three forces at three points, then the line of action of these forces should be _____	always concurrent	always parallel	concurrent or parallel	none of the above	**C**
10	Cantilever beam has one end _____ and other end _____.	always concurrent	always parallel	concurrent or parallel	none of the above	**C**
11	The magnitude of the force F = (65 N)I - (80 N)j – (200 N)k	220 N	225 N	235 N	250 N	**B**
12	If a force F is acting on a body makes angle of θx with X axis, θy with Y axis and θz with Z axis, then the equation between the angles is given as	cos2 θx + cos2 θy + cos2 θz = 0	cos2 θx + cos2 θy + cos2 θz = 1	Sin2 θx + Sin2 θy + Sin2 θz = 0	Sin2 θx + Sin2 θy + Sin2 θz = 1	**B**

Sr.No	Questions	Option A	Option B	Option C	Option D	Ans
13	The couple moment and the force is divided to get the distance of the axis from the point of action of the force in free body diagrams	TRUE	FALSE			**A**
14	Just like the collinear force system for free body diagrams there is a system of the parallel forces	TRUE	FALSE			**A**
15	What is not the condition for the equilibrium in three dimensional system of axis?	$\sum Fx=0$	$\sum Fx=0$	$\sum Fz=0$	$\sum F\neq 0$	**D**
16	If anybody is tied to three or more ropes, and then is allowed to achieve its equilibrium. Then the equilibrium achieved is achieved w.r.t what?	The three axis of the body	The ground	The ropes direction	The weight direction	**B**
17	In coplanar non- concurrent force system, if Summation Fx= 0 and summation Fy= 0 then the resultant can be_____	Force	Moment	Zero	None of the above	**B**
18	A simply supported beam AB ,of length 6m is acted upon by UDL of 3 KN/m. The reaction at A and B are	9 KN, 6 KN	6 KN, 6 KN	9 KN, 9 KN	9 KN, 27 KN	**C**
19	A concentrated clockwise moment of magnitude 20 Nm is acting at the centre of a simply supported beam of span 4m. The reaction at right end will be _____	20 N (Upward)	5 N (Downward)	20 N (Downward)	5 N (Upward)	**D**
20	A 50N force acts from point A(0,0,0) to point B (1,1,1) then force represented as,	50	50 (i+ j+ k)	50/ √3 (i+j+k)	50 N	**C**
21	A number of forces acting at a point will be in equilibrium if	all of them are inclined equally	Two resolved part at right angle are same	sum of resolved parts in any two per-pendicular directions are both zero	Their total sum is zero	**C**
22	Moment have .....on body.	Rotational effect	Translational effect	Both rotational and translational effect	No effect	**A**
23	Rod AB of 3m lenth is subjected to 10Nm anticlockwise couple at centre and 20N vertically upword force at B .The equivalent force couple system at point A contain.....	20N vertically upword force and 70Nm clockwise couple at A	20N vertically downword force and 70Nm anticlockwise couple at A	70N vertically upword force and 20Nm clockwise couple at A	70N vertically downword force and 20Nm anticlockwise couple at A	**B**
24	Concurrent force system offers	One condition of equilibrium	Two conditions of equilibrium	Three conditions of equilibrium	Four conditions of equilibrium	**B**