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Q1. Isotropic Material के लिए No. of elastic constant है:-

- a) 2 b) 3 c) 4 d) 5

Q2. एक Beam पर 3 Roller support लगे हैं, तब Beam is stable for:-

- a) Loading with No component 1 to the direction of beam
b) Any general loading
c) Loading with No Components in the direction of beam
d) None

Q3. Medium size column के लिए slenderness ratio :-

- a) 160 and 180 b) 32 and 120 c) 20 and 32 d) 120 and 160

Q4. Liner relation obtains होता है:-

- a) Following Hooke's Law b) Rigid elastic Material
c) Plastic stress-stain property d) Elastic stress- stain property

Q5. किसी भी Metal को पीट कर Plate में बदला जाना है:-

- a) Malleability b) ductility c) Plasticity d) elasticity

Q6. एक cantilever Beam general loading से subject है तब B.M Max होगा:-

- a) Fixed end b) Free end c) Mid span d) quarter span

Q7. Ratio of length of column to min radius of gyration is known:-

- a) Slenderness Ratio b) Buckling ratio c) crippling ratio d) compressive ratio

Q8. कौन सा Beam determinate beam है :-

- a)  b)  c)  d) 

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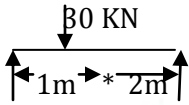
Q9. Stain energy, Axial deformation से है:-

- a) σE b) $P\Delta$ c) $\sigma^2/2E$ d) $\frac{1}{2} P\Delta$

Q10. एक S.S.B, length 1 के centre पर एक Point Lode w है तब Max S.F होगा:-

- a) $w/2$ b) wL c) $wL^2/2$ d) $wL^2/4$

Q11. S.S.B , Reaction at B is :-



- a) 20 KN b) 18 KN c) 15 KN d) 10 KN

Q12. a  c beam is:-

- a) Free cantilevers Beam b) Single Over hanging Beam
c) Double Over hanging d) Proper Cantilevers Beam

Q13. यदि Slenderness ratio is o, then. Length of column:-

- a) Is very large
b) Equal to radius of gyration
c) Effective length is equal to actual length
d) Is support al side पूरी लंबाई पर:-

Q14. किस की विमा (Dimension) नहीं है:-

- a) Shear force b) stress c) strain d) Modulus of elasticity

Q15. एक S.S.B length L subjected to U.D.L, WKN/M, Max Banding होगा:-

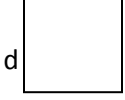
- a) $WL^2/8$ b) $WL/2$ c) $WL^2/2$ d) WL

Q16. B.M.D की shape क्या होगी यदि किसी विमा पर UDL लगा हो:-

- a) Constant b) cubic parabola c) parabola d) Trinagular

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Q17. M.O.I about Base is:-



- a) $bd^2/3$ b) $bd^3/12$ c) $bd^3/3$ d) $bd^2/12$

Q18. एक Fixed beam, UDL जो कि पूरी Length पर है, के लिए, Support पर B.M तथा Mid पर B.M का Ratio है:-

- a) 0.5 b) 1 c) 1.5 d) 2

Q19. टूटने से पहले तक energy रहने की ability है:-

- a) Hardness b) Toughness c) Brittleness d) Softness

Q20. On Contra flexure point:-

- a) BM is min b) BM is Max c) BM is 0 d) BM is 0 & sign change....

Q21. एक Cantilever Beam का S.F.D की आकृति (Shape) है यदि Free end पर Load लगा हो:-

- a) Triangle b) Rectangular c) parabola d) Ellipse

Q22. Deflection क्या है, किसी Cantilever beam जिस पर load w mid पर लगा है:-

- a) $WL^3/3Ei$ b) $5WL^3/24Ei$ c) $5WL^3/48Ei$ d) $WL^3/48Ei$

Q23. Point D पर S.F होगा:-(fig)

- a) 0 b) $2M/L$ c) M/L d) $3M/L$

Q24. Biaxial stress के लिए Max shear stress होगा:-

- a) Difference of Normal stress b) Half the Difference of normal stress
c) Sum of normal stress d) Half the sum of normal stress.

Q25. Strength of beam depend on :-

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- a) Depth of section b) Area of cross section c) section modulus d) M.O.I

Q26. Mohr's circle के लिए, dia Represent :-

- a) Max shear stress b) Max Normal stress c) Principal stress d) min. Normal stress.

Q27. Poission ratio "μ" is:-

- a) Axial strain to transverse strain
b) Axial strain to shear strain
c) transverse strain to axial strain
d) Shear strain to axial strain

Q28. In a thin cylinder shell, ratio of longitudinal stress to hoop stress is

- a) 0.5 b) 1 c) 1.5 d) 2

Q29. Angle of twist is :-

- a) GJ/TL b) TL/GJ c) TJ/GL d) TG/JL

Q30. Buckling load जब column के दोनों end fix हो:-

- a) $\pi^2 EI/L^2$ b) $2\pi^2 EI/L^2$ c) $4\pi^2 EI/L^2$ d) $\pi^2 EI/4L^2$

Q31. Hook's law is Valid upto:-

- a) limit of proportionality b) elastic limit c) yield point d) ultimate pont

Q32. Elastic limit तक energy absorb करने की capacity है:-

- a) Resilience b) Ductility c) Elasticity d) Malleability

Q33. Both end fixed तब column की length equal होगी :-

- a) L/2 b) $L/\sqrt{2}$ c) 2L d) L

Q34. S.S.B का slope क्या होगा जब उसके centre पर point load w लगा हो :-

- a) $WL^2/16EI$ b) $WL^2/24EI$ c) $WL^2/8EI$ d) $WL^2/12EI$

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Q35. यदि circular shaft subject to torque T & B.M M, ratio of max B.M to Max shear stress is :-

- a) M/T b) 2T/M c) 2M/T d) M/2T

Q36. Two beam, one is circular, other is square, have equal area subj to Bending, then:-

- a) Both section are equally economical
b) Both section are equally stiff
c) circular section is more economical
d) square section is more economical

Q37. एक Beam पर Shear force f लगा हो तब shear stress max होगा:-

- a) Bottom end b) mid depth c) Neutral surface d) topmost end

Q38. Circular shaft में strain energy per unit volume, under axial tension is:-

- a) $\sigma^2/8E$ b) $\sigma^2/16E$ c) $\sigma^2/2E$ d) $\sigma^2/4E$

Q39. Beam में indeterminate of degree है:-

- a) 3 b) 1
c) 4 d) 2

Q40. The Poisson ratio ' μ ' is normally :-

- a) .0 b) .25 c) .50 d) 1

Q41. The B.M of a beam :-

- a) MY/Z b) MY/l c) MZ/Y d) MI/Y

Q42. SF at A is :-

- a) 1 b) 0 c) 4 d) 2

Q43. Relation between E,G, μ is:-

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- a) $G = E/2(H\mu)$ b) $E = G/2(H\mu)$ c) $G = E/2(1-\mu)$ d) $E = G/H\mu$

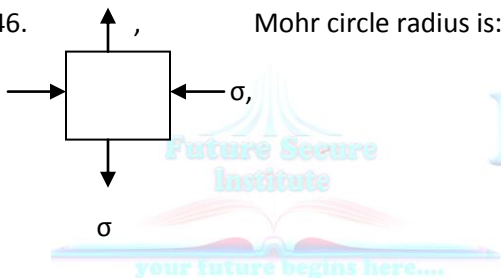
Q44. Max Shear stress, for solid circular shaft:-

- a) $16T/\pi D^4$ b) $16T/\pi D^3$ c) $32T/\pi D^4$ d) $32T/\pi D^3$

Q45. Angle B/w P.P and max. Shear plane is:-

- a) 45° b) 90° c) 135° d) 60°

Q 46. Mohr circle radius is:-



- a) σ b) $\sigma/2$ c) 2σ d) 6σ

Q47. Rectangular section के लिए Section modulus is:-

- a) $bd^2/36$ b) $bd^3/6$ c) $bd^2/6$ d) $bd^3/12$

Q48. $EI(d^3y/dx^3)$, Represent:-

- a) Deflection b) slope c) Moment d) Shear

Q49. Shear stress distribution, solid circular section के लिए :-

- a) $q_{max} = 2q_{mean}$ b) $q_{Max} = 1.5q_{mean}$ c) $q_{Max} = 1.33q_{mean}$ d) $q_{Max} = 1.25q_{mean}$

Q50. Euler's formula is valid for:-

- a) Short column b) long column c) Both d) None

Q51. Relation B/w E & G is:-

- a) $E = 3G(1+\mu)$ b) $E = 2G(1-2\mu)$ c) $E = 2G(1+\mu)$ d) $E = 3G(1-2\mu)$

Q52. Strain energy in a solid:-

- a) $\sigma \cdot E \cdot \text{volume}$ b) $\sigma \times E \times \text{Area}$ c) $.5 \sigma E l$ d) $.5 \sigma \cdot E \cdot V$

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Q53. Ratio of stress to strain is:-

- a) E b) G c) K d) None

Q54. Bending equation is :-

- a) $M/I = \sigma b/y = E/R$ b) $I/M = \sigma b /Y = E/R$ c) $M/I = \sigma b/y = R/E$ d) $M/I = Y/\sigma b = E/R$

Q55. Slenderness ratio is b/w 32 to 120 is:-

- a) Long column b) short column c) Medium column d) stocky column

Q56. Cantilever beam, length l, load P. at free end, B M at free point:-

- a) 0 b) P c) -P d) $p/2$

Q57. BM(m) किसी const length (L) पर Act है तब S.F होगा :-

- a) M/i b) $M/2i$ c) $M/4i$ d) None

Q58. Euler's load , जब column का एक तथा दूसरा free हो:-

- a) $\pi^2 EI/l^2$ b) $4\pi^2 EI/l^2$ c) $\pi^2 EI/4l^2$ d) $2\pi^2 EI/l^2$

Q59. A beam is subjected to:-

- a) Axial loading b) transverse loading c) Axial and transverse loading d) None

Q60. एक Member जो Axial compressive force से subjected हो :-

- a) Beam b) column c) frame d) strut

Q61. M/EI is

- a) Stress b) Rigidity c) Curvature d) s. force

Q62 . Torsion Rigidity, solid, circular shaft जिसका dia है, proportional :-

- a) d b) d^2 c) d^4 d) $1/d^2$

Q63. Contra flexure occurs in :-

- a) Continuous beam b) cantilever beam c) over hanging beam d) S.S.B

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Q64. Circular section को section modulus है :-

- a) $\pi d^2/16$ b) $\pi d^3/16$ c) $\pi d^3/32$ d) $\pi d^4/64$

Q65. Two shaft, one is solid, other is Hollow, same material से बनी है, same weight & same length है, तब Hollow shaft, solid shaft से :-

- a) More strong d) less strong c) Same strength d) None

Q66. A solid shaft transmit 44kw power at 700 rps. Then T :-

- a) 10 N.M b) 100 NM c) 600 NM d) 60 NM

Q67. यदि μ is .25 तब $G/E=?$:-

- a) .4 b) 1.2 c) 2 d) 3.6

Q68. यदि equal and opposite force किसी body पर लगे और उसे elongate करे तब stress is:-

- a) Tensile stress b) Bending stress c) Compressive stress d) shear stress

Q69. Circular shaft के centre पर shear stress है:-

- a) Max b) Min c) 0 d) None

Q70. एक cantilever Beam जिसपर UDL लगा है का Design होगा:-

- a) Square b) circular c) I-section d) Rectangular

Q71. Hoop stress for thin shell is :-

- a) $\pi p d^2/4$ b) $p d/t$ c) $4p/\pi d^2$ d) $p d/2t$

Q72. एक Beam जिसका one end fixed व other free end तब B.M occur होगा:-

- a) Under the load b) fixed end c) free end d) B/W centre & fixed end

Q73. एक S.S.B length 1m. Subject UDL. 4N/M तब Beam का B.M max है:-

- a) 1 N-M b) .1 N-M c) .05 N-M d) .025 N-M

Q74. BM at support for S.S.B is:-

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a) >1, b) 0 c) 1 d) <1

Q75. यदि two shaft जिनकी length same one is hollow, transmit equal torque व equal max stress than वे equal है:-

a) Polar M.O.I b) polar Modulus of section c) dia d) angle of twist

Q76. In case of cantilever, Max BM and max shear force occurs at:-

a) Fixed end b) free end c) middle d) Any point

Q77. M.O.I of circle and square जिनका area same है का Ratio है :-

a) $3/\pi$ b) $3/2\pi$ c) $4/\pi$ d) $5/9\pi$

Q78. μ is always less to :-

a) 1 b) .2 c).4 d) .5

Q79. एक circular shft 13KN torque transmit करती है यदि वह 12 KN M तक Reduced हो जाए, तब shaft पर max B.M होगा:-

a) 1 KN.M b) 3 KN.M c) 5 KN.M d) 7 KN-M

Q80. एक Section जो τ से subjected हो, strain energy per unit volume है :-

a) $2V=\tau^2/G$ b) $T^2 \tau/G$ c) $\tau^2/2G$ d) $2G/\tau^2$

Q81. एक circular shaft rotate Nrpm under Action torque T तब Power है:-

a) $2\pi NT/750$ b) $2\pi NT/60$ c) $2\pi NT/450$ d) $2\pi NT/4500$

Q82. Thin shell के लिए t/D होगा, Less to :-

a) 1/5 b) 1/10 c) 1/15 d) 1/20

Q83. B.M max होगा जब SF is:-

a) Min b) Max c) 0 d) change sign

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Q84. एक S.S.B, length (l) के Center पर point load w लगे तब downward deflection center पर होगा:-

- a) $wl^2/8 Ei$ b) $wl^3/3 Ei$ c) $5 wl^3/384 Ei$ d) $wl^3/48 Ei$

Q85. Cantilever beam में strain energy stored है:-

- a) $P^2l^3/4 Ei$ b) $P^2l^3/3 Ei$ c) $P^2l^3/6 Ei$ d) $P^2l^3/2 Ei$

Q86. एक circular shaft length L, dia D, का एक सिरा Fixe है, दूसरा सिरा T से subjected है, rotation free to fixed end पर θ है तब θ क्या होगा यदि length is double तथा dia is d/2:-

- a) 2Q b) 16 Q c) 32 Q d) Q/2


Q87. Two S.S.B A & B, length L, subjected to M, A is $b \times b/2$ तथा B is $b/2 \times b$, Then σ_A/σ_B is:-

- a) $\sigma_A = 2\sigma_B$ b) $\sigma_A = \sigma_B/2$ c) $\sigma_A = \sigma_B/4$ d) $\sigma_A = \sigma_B$

Q88. यदि किसी Beam पर दो से ज्यादा support हो तब इसे कहेंगे

- a) Continuous Beam b) Built in beam c) En caste red beam d) S.S.B

Q89. एक S.S.B जिसकी Middle पर lode P then normal stress है:-

- a)  b)  c)  d) 

Q90. एक S.S.B पर U d l w kgf unit length पर है, S.F at centre पर है:-

- a) $wl^2/8$ b) $wl/4$ c) 0 d) $wl/2$

Q91. μ highest for :-

- a) Rubber b) copper c) steel d) concret

Q92. किसी circular cross section पर Bending व shear stress equal magnitude वह का produce होता है, तब combined b. & torsion का ratio है:-

- a) $1/4$ b) 1 c) 2 d) $1/2$

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Q93. The ratio of Euler's buckling load of columns with same parameter n 1) Both end fixed 2) one end fixed & other end free तब

- a) 1 b) 4 c) 8 d) 16

Q94. The deformation per unit length in the perpendicular to the force is :-

- a) Linear stress b) shear stress c) linear strain d) lateral strain

Q95. A solid shaft torque T transmit करती है, Shear stress is तब perpendicular:-

- a) $3 \frac{\sqrt{16T}}{\pi r}$ b) $3 \frac{\sqrt{32T}}{\pi r}$ c) $3 \frac{\sqrt{4T}}{\pi r}$ d) $3 \frac{\sqrt{64T}}{\pi r}$

Q96. Longitudinal stress in a thin cylinder is:-

- a) pd/t b) $pd/2t$ c) $pd/4t$ d) $pd/8t$

Q97. यदि किसी wire की double length करे तब longitudinal strain है:-

- a) 0.5 b) 1 c) 1.5 d) 2

Q98. Resilience of a material is considered when जब वह subjected तो :-

- a) Frequent heat treatment b) fatigue c) creep d) Shock loading

Q99. Polar section modulus of a solid circular shaft जिसका dia r 'd' C.G के about है:-

- a) $\pi/8 d^3$ b) $\pi/16 d^3$ c) $\pi/32 d^3$ d) $\pi/64 d^3$

Q100. Modules of Rigidity is the ratio of :-

- a) Axial stress to lateral strain b) Linear stress to longitudinal strain
b) Shear stress to shear strain d) hydrostatic stress to volumetric strain

Q101. True stress is the ratio of:-

- a) Avg. load to avg. area b) Avg. Load to Max area
c) Max load to Max area d) load to area

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Q102. Hooke's law hold good up to:-

- a) Yield point
- b) Breaking point
- c) Elastic limit
- d) limit of proportionality

Q103. P.P is one which carries:-

- a) No. shear stresses
- b) No. Normal stress
- c) Max. Sear stress
- d) Max. resu hant of stresses

Q104. Poisson ration is used in:-

- a) One D Body
- b) 2-D Body
- c) 3D body
- d) Both 213D

Q105. जब column के Both end fixed हो तब crippling load है:-

- a) $\pi^2 EI/l^2$
- b) $\pi^2 EI/l^2$
- c) $4\pi^2 EI/l^2$
- d) $2\pi^2 EI/l^2$

Q106. Proof Resilience is a store energy:-

- a) Per unit volume
- b) In whole volume
- c) Per unit length
- d) per unit area

Q107. दो Shaft A व B same Material की बानी है, तथा A का dia Twice of shaft B. तब Power transmitted by A, How Many time of Shaft B.

- a) Two
- b) four
- c) eight
- d) sixteen

Q108. When दो Shaft parallel में जोड़ी है तब:-

- a) Torque is same
- b) Shear Stress is same
- c) Angle of twist same
- d) torsional stiffness

Q109. Max stress produced in a bar of tapering section at:-

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- a) Smaller end b) large end c) middle d) any where

Q110. Two bar of different material and size is same tensile force F से Subjected है यदि elongation Ration 2:5 है तब $E_1:E_2$ क्या है:-

- a) 2:5 b) 5:2 c) 1:5 d) None

Q111. Shaft में Shear stress Varies for:-

- a) Min at centre to max at circumference
b) Max at centre to min at circumference
c) Zero at the centre to max at the circumference
d) Max at the centre to 0 at the circumference



Q112. Tensional Rigidity of a shaft is :-

- a) T/τ b) T/Q c) T/r d) T/G

Q113. In mohr's circle Max shear stress is:-

- a) Equal to Radius of mohr's circle
b) Greater than of mohr's circle
c) Less than of mohr's circle
d) None

Q114. If $E=200 \text{ GN/M}^2$, $G= 80\text{GN/M}^2$ तब $k=?$

- a) 50 GN/M^2 b) 100 GN/M^2 c) 133.33GN/M^2 d) 266.66GN/M^2

Q115. एक Rectangle body (b x d) का C.G के About M.O.I है:-

- a) $db^3/12$ b) $bd^3/12$ c) $bd^3/36$ d) None

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
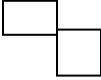


Q116. एक boiler shell जिसका dia 200cm तथा plate thickness 1.5 cm subject to pressure of 1.5 MN/M² then Hoop stress is:-

- a) 30 MN/M² b) 50 MN/M² c) 100 MN/M² d) 200 MN/M²

Q117. यदि किसी Bar को P से Push किया जाये तब:-

- a) Length width and thickness increase
b) length width and thickness decrease
c) length increase width & thickness decrease
d) length decrease width & thickness increase

Q118. S.F.D होगा,

- a)  b)  c)  d) 

Q119. Center co- ordinate of Mohr's circle:-

- a) $\sigma_x - \sigma_y / 2, 0$ c) $0, \sigma_x + \sigma_y / 2$ d) $\sigma_x + \sigma_y / 2, 0$ d) $0, \sigma_x - \sigma_y / 2$

Q120. μ is:-

- a) $0 < \mu < 1/2$ b) $1 < \mu < -1$ c) $1 < \mu < 0$ d) $< \mu < -$

Q121. N. Axis पर bending stress होगी:-

- a) Min b) 0 c) Max d)

Q122. किसी shaft के Material देने पर, Magnitude of polar Modulus is a Measure of:-

- a) Flexural rigidity b) Strength in resisting torsion c) Both d) None

Q123. एक body जिस पर 1200Mpa tensile stress तथा 600 Mp tensile stress plane के right angle लगी है, तथा 400mpa shear stress है तब Max normal stress है:-

- a) 400 mpa b) 500 mpa c) 900 mpa d) 1400 mpa

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Q124. A steel bar 5 mm को 15°C to 40°C तक Heat किया जाता है, व bar expand freely हो जाती है तब bar में:- a) No stress b) tensile stress c) shear stress d) compressive stress

Q125. P.P have:-

a) Max shear stress b) 0 shear stress c) Min. shear stress d) none

Q126. Ratio of $\sigma_l/\sigma_h=?$

Q127. At P.P in combined stresses:-

- a) No stress occur
b) All stress are max
c) No tensile stress and shear stress is max
d) The normal stress is max or min and τ is 0



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Q128. जब Metal मुक्त फैलता है, तब उसमें developed होगा:-

- a) Thermal stress b) Tensile stress
c) Bending stress d) no stress

Q129. Under impact load, material रहता है:-

- a) Compressive strength b) tensile strength
c) Hardness d) toughness

Q130. Thick spherecall shell में stress रहती है:-

- a) Parabolic in nature b) uniform c) cubic d) hyperbolic

Q131. The S.F at the center of circular shaft under torsion is

- a) min b) 0 c) Max d) None