PSC Grade I Draftsman - Architectural - Pwd - Architectural Wing Examination
Previous Year Question Paper

Exam Name: ***Grade I Draftsman - Architectural - Pwd - Architectural Wing***

Date of Test : 01.03.2016

Question Paper Code: 038/2016

Medium of Questions: English

038/2016

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The unit of force in S.I. system of units is :
   (A) Dyne (B) Kilogram
   (C) Newton (D) Watt

2. One kg force is equal to :
   (A) 9.8 N (B) 7.8 N
   (C) 8.9 N (D) 12 N

3. The angle between two forces when the resultant is maximum and minimum respectively are :
   (A) 180° and 0° (B) 0° and 180°
   (C) 90° and 180° (D) 90° and 0°

4. If the resultant of two equal forces has the same magnitude as either of the forces, the angle between the two forces is :
   (A) 30° (B) 60°
   (C) 90° (D) 120°

5. The resultant of the two forces P and Q is R. If Q is doubled, the new resultant is perpendicular to P. Then :
   (A) P = Q (B) Q = R
   (C) Q = 2R (D) None of these

6. Two forces are acting at an angle of 120°. The bigger force is 40 N and the resultant is perpendicular to the smaller one. The smaller force is :
   (A) 20 N (B) 40 N
   (C) 80 N (D) None of these

7. Concurrent forces are those forces whose lines of action :
   (A) Lie on the same line (B) Meet at one point
   (C) Meet on the same plane (D) None of these

8. A number of forces acting at a point will be in equilibrium, if :
   (A) All the forces are equally inclined
   (B) Sum of all the forces is zero
   (C) Sum of resolved parts in the vertical direction and horizontal direction is zero
   (D) All the forces are equally perpendicular

9. The forces, which meet at one point and their lines of action also lie on the same plane, are known as :
   (A) Coplanar concurrent forces
   (B) Coplanar non-concurrent forces
   (C) Non- coplanar concurrent forces
   (D) Non- coplaner non-concurrent forces

10. A couple produces :
   (A) Translatory motion
   (B) Rotational motion
   (C) Combined translatory and rotational motion
   (D) None of the above

11. Elasticity of a body is :
   (A) The property by which a body returns to its original shape after removal of the load
   (B) The ratio of stress to strain
   (C) The resistance to the force acting
   (D) Large deformability as in case of rubber

12. The stress in a member subjected to a force is :
   (A) Continued deformation under sustained loading
   (B) Load per unit area
   (C) The resistance offered by the material per unit area to a force
   (D) The strain per unit length

13. The volumetric strain is the ratio of the :
   (A) Original thickness to the change in thickness
   (B) Change in volume to the original volume
   (C) Change in thickness to the original thickness
   (D) Original volume to the change in volume

14. The law "Stress is proportional to strain within certain limits" is formulated by :
   (A) Thomas Young (B) Poisson
   (C) Mohr (D) Robert Hook

15. Young's Modulus is the ratio of the normal stress to the :
   (A) Normal strain within elastic limit
   (B) Reciprocal of normal strain within elastic limit
   (C) Normal strain within proportional limit
   (D) Normal strain at yield point

16. The stress due to temperature change in a member depends on :
    (A) Length of the member
    (B) Supporting conditions at the two ends
    (C) Area of cross section
    (D) None of the above

17. The percentage of elongation of a material from a direct tensile test indicates :
    (A) Ductility (B) Elasticity
    (C) Malleability (D) Brittleness

18. The energy stored in a body when strained within elastic limit is known as :
    (A) Resilience (B) Proof resilience
    (C) Impact energy (D) Strain energy

19. The Poisson's Ratio is the ratio of :
    (A) Lateral elongation to linear elongation
    (B) Lateral stress to linear stress
    (C) Lateral strain to longitudinal strain
    (D) Young's Modulus to Modulus of Rigidity

20. Modulus of Rigidity is the ratio of :
    (A) Normal stress to normal strain
    (B) Shear stress to shear stain
    (C) Poisson's ratio to ultimate strength in compression
    (D) Lateral stress to lateral stain

21. In order to determine the natural features such as valleys, rivers, lakes etc. the surveying preferred is :
    (A) City surveying (B) Location surveying
    (C) Cadastral surveying (D) Topographical surveying

22. The fundamental principle of surveying is to work from the :
    (A) Whole to the part (B) Part to whole
    (C) Lower level to higher level (D) Higher level to lower level

23. The method of measuring distance by pacing is chiefly used in :
    (A) Location survey (B) Preliminary surveys
    (C) Reconnaissance surveys (D) All of these

24. The instrument attached to the wheel of a vehicle in order to measure the distance travelled, is called :
(A) Passometer (B) Odometer
(C) Pedometer (D) Speedometer

25. Direct ranging is possible only when the end stations are :
(A) Close each other (B) Not more than 100m apart
(C) Located at highest points in the sea (D) Mutually inter visible

26. The error in measured length due to sag of chain or tape is known as :
(A) Positive error (B) Negative error
(C) Compensating error (D) Instrumental error

27. When the position of a point is to located accurately by a perpendicular offset, the direction of perpendicular is set out by means of :
(A) Theodolite (B) Optical square
(C) Dumpy level (D) Planimeter

28. In an optical square, the angle between the first incident ray and the last reflected ray is :
(A) 60° (B) 120°
(C) 90° (D) 150°

29. The angle between the reflecting surfaces of a prism square is :
(A) 30° (B) 60°
(C) 75° (D) 45°

30. The horizontal angle between the true meridian and survey line is called :
(A) Azimuth (B) Magnetic bearing
(C) Dip (D) Magnetic declination

31. The number of reaction components possible at a hinge on rollers support is :
(A) 2 (B) 1
(C) 0 (D) 3

32. A simply supported beam is subjected to a pure moment. This will be resisted through :
(A) A moment reaction at hinged end
(B) A moment reaction at hinge on rollers end
(C) A couple formed by the reactions from the two supports
(D) External support capable of resisting moment which is necessarily to be provided

33. A cantilever beam is the one which is supported with :
(A) One end hinge and other on rollers
(B) One end fixed and the other on rollers
(C) Both end on rollers
(D) One end fixed and the other free

34. The bending moment in a beam will be maximum where :
(A) The S.F is zero
(B) The S.F. is uniform
(C) The S.F is maximum
(D) None of these

35. Points of contra flexure are the points where :
(A) The S.F. is zero
(B) Where the B.M. changes its sign
(C) The B.M. is zero
(D) The beam is supported

36. In a simple bending theory, one of the assumption is that the plane section before Bending remains plane after bending. This assumption means that :
(A) Strain is uniform throughout the beam
(B) Stress is proportional to the distance from the neutral axis
(C) Stress is uniform throughout the beam
(D) Strain is proportional to the distance from the neutral axis

37. The neutral axis of any section is :
(A) The axis passing through middle point of the height
(B) The axis about which the moment of inertia is minimum
(C) Longitudinal axis of the member
(D) The line of intersection of neutral plane with cross section

38. Which of the following section is the most efficient in carrying bending moments?
(A) I-section
(B) Rectangle section
(C) Circular section
(D) T-section

39. The maximum shear stress will always occur at :
(A) Neutral axis
(B) A fibre in the cross-section depending on the configuration
(C) The top extreme fibre
(D) The bottom extreme fibre

40. In an I section almost all the maximum shear stress will occur at :
(A) Top flange
(B) Bottom flange
(C) Web
(D) Half the depth of the flange

41. When a cantilever beam is loaded at its free end, the maximum compressive stress Shall develop at :
(A) Top fibre (B) Neutral axis
(C) Centre of gravity (D) Bottom fibre

42. A beam of uniform strength has :
(A) Same bending stress at every section
(B) Same cross section throughout the beam
(C) Same bending moment at every section
(D) Same shear stress at every section

43. The neutral axis of a beam is subjected to ———— stress.
(A) Maximum tensile (B) Zero
(C) Minimum tensile (D) Maximum compressive

44. When a simply supported rectangular beam is loaded transversely, the maximum tensile stress is developed on the :
(A) Top layer (B) Neutral axis
(C) Bottom layer (D) Every cross-section

45. A flitched beam is used to :
(A) Change the shape of the beam
(B) Effect the saving in material
(C) Increase the cross-section of the beam
(D) Equalise the strength in tension and compression

46. A rectangular beam of length / supported at its two ends carries a central point load *W*. The maximum deflection occurs :
(A) At the centre (B) At the ends
(C) At 1/3 from both ends (D) None of these

47. The product of Young's modulus (E) and moment of inertia(I) is known as :
(A) Modulus rigidity (B) Flexural rigidity
(C) Bulk modulus (D) Torsional rigidity

48. The product of the tangential force acting on the shaft and its distance from the axis of the shaft (i.e. radius of shaft) is known as :
(A) Bending moment (B) Torsional rigidity
(C) Twisting moment (D) Flexural rigidity

49. When a shaft is subjected to torsion, the shear stress induced in the shaft varies from?
(A) Minimum at the centre to maximum at the circumference
(B) Maximum at the centre to minimum at the circumference
(C) Maximum at the centre to zero at the circumference
(D) Zero at the centre to maximum at the circumference

50. The shear stress at the centre of a circular shaft under torsion is :
(A) Zero (B) Minimum
(C) Maximum (D) Infinity

51. Laterite is chemically classified as :
(A) Calcareous rock (B) Argillaceous rock
(C) Siliceous rock (D) Metamorphic rock

52. Which of the following is an example of argillaceous rock?
(A) Kaolin (B) Slate
(C) Laterite (D) All of these

53. Marble is an example of
(A) Aqueous rock (B) Sedimentary rock
(C) Metamorphic rock (D) Igneous rock

54. A first class brick should have a minimum crushing strength of :
(A) 10.5 MN/m^2 (B) 7 MN/m^2
(C) 12.5 MN/m^2 (D) 14 MN/m^2

55. Which of the following constituent, when present in excess quantity in clay causes the bricks to melt and distort during burning?
(A) Alumina (B) Silica
(C) Lime (D) Alkalies

56. Efflorescence is caused if :
(A) The alkaline salt is present in the bricks
(B) The clay used for making bricks contain pyrite
(C) The water used for pugging the clay contains gypsum
(D) All of the above

57. Quick lime is a :
(A) Carbonate of lime
(B) Product left immediately after the calcinations of pure limestone
(C) Oxide of calcium
(D) Lime quickly treated with water

58. The silica in Portland cement should be :
(A) 20 to 25% (B) 10 to 20%
(C) 25 to 40% (D) 40 to 60%

59. The cementing property in cement is mainly due to :
(A) Silica (B) Lime
(C) Iron oxide (D) Alumina

60. The slump test of concrete is used to measure its :
(A) Tensile and compressive strength (B) Impact value
(C) Consistency (D) Homogeneity

61. Which of the following is the most correct estimate?
(A) Plinth area estimate (B) Cube rate estimate
(C) Building cost index estimate (D) Detailed estimate

62. The expenses of item which do not come under any regular head of item and the cost of unforeseen items are called
(A) Lump-sum (B) Extras
(C) Customary charges (D) Contingencies

63. The quantity of Damp Proof Course (D.P.C) is worked out in :
(A) m^2 (B) m^3
(C) m (D) limp-sum

64. The technique of finding the fair price of an existing building or property is known as :
(A) Estimation (B) valuation
(C) Pricing (D) Costing

65. The annual periodic payments made for the payment of the capital invested is known as :
(A) Depreciation (B) Sinking fund
(C) Annuity (D) Solatium

66. The value of the dismantled material less the cost of dismantling is called :
(A) Salvage value (B) Ratable value
(C) Book value (D) The scrap value

67. The weight of cement is generally taken as :
(A) 50 kg (B) 45 kg
(C) 60 kg (D) 65 kg

68. The volume of cement in one bag is :
(A) 0.067 m^3 (B) 0.033 m^3
(C) 0.050 m^3 (D) 0.025 m^3

69. The approximate weight of one cubic metre of mild steel is :
(A) 2400 kg (B) 14000 kg
(C) 7850 kg (D) 1000 kg

70. The amount required to be deposited by a contractor while submitting a tender is known as :
(A) Fixed deposit (B) Caution deposit
(C) Security deposit (D) Earnest money deposit

71. In singly reinforced beams, steel reinforcement is provided in :
(A) Tensile zone (B) Compressive zone
(C) Both tensile and compressive zone (D) Neutral axis

72. In a singly reinforced beam, the effective depth is measured from the compression edge to the :
(A) Tensile edge (B) Centre of tensile reinforcement
(C) Neutral axis of the beam (D) None of these

73. The section in which concrete is not fully stressed to its permissible value when stress in steel reaches its maximum value, is called :
(A) Critical section (B) Balanced section
(C) Under reinforced section (D) Over-reinforced section

74. The deep beams are designed for :
(A) Shear force only
(B) Both shear force and bending moment only
(C) Bearing
(D) Bending moment only

75. Shear reinforcement is provided in the form of :
(A) Vertical bars
(B) Inclined bars
(C) Combination of vertical and inclined bars
(D) All of these

76. The longitudinal shearing stresses acting on the surface between the steel and concrete are called :
(A) Bond stresses
(B) Tensile stresses
(C) Compressive stresses
(D) None of these

77. Shear modulus of elasticity is also known as :
(A) Modulus of elasticity
(B) Bulk modulus of elasticity
(C) Modulus of rigidity
(D) Tangent modulus of elasticity

78. Which of the following is not a compression member?
(A) Strut
(B) Tie
(C) Rafter
(D) Boom

79. Effective length of a column is the length between the points of :
(A) Maximum moments
(B) Zero shear
(C) Zero moments
(D) None of these

80. The buckling load in a steel column is :
(A) Related to the length
(B) Directly proportional to slenderness ratio
(C) Inversely proportional to slenderness ratio
(D) Non-linearly to the slenderness ratio

81. Who was the president of Constituent Assembly?
(A) Dr. Rajendra Prasad
(B) B.R. Ambedkar
(C) M.N. Roy
(D) B.N. Rao

82. One of the following language is not recognised by Indian constitution :
(A) Konkani
(B) Bodo
(C) Dogri
(D) Tulu

83. "The Right for constitutional Remedies is the heart and soul of the constitution" who said :
(A) Jawaharlal Nehru (B) B.R. Ambedkar
(C) Dr. Radhakrishnan (D) Moulana Abul Kalam Azad

84. Who abolished sati?
(A) Raja Ram Mohan Roy (B) Lord William Bendict
(C) Lord Curzon (D) Lord Canning

85. Who was the leader of 1921 Malabar Rebellion?
(A) Vakkom Abdul Kader (B) K. Madhavan Nair
(C) Ali Musliyar (D) Syed Fazal Pookoya Thangal

86. Who is the author of "Oru Theruvinte Katha"?
(A) S.K. Pottekkad (B) Vaikom Mohamed Basheer
(C) Uroob (D) Ponkunnam Varkey

87. Kuruchia Revolt was in :
(A) 1822 (B) 1832
(C) 1802 (D) 1812

88. V.T. Battathirippad stood for the emancipation of :
(A) Nadar Women (B) Namboodiri Women
(C) Nair Women (D) Ezhava Women

89. Who is the author of "Kundalinippattu"?
(A) Kumaran Asan (B) Vailopilli Sreedhara Menon
(C) Sree Narayana Guru (D) Vagbadanandha

90. Who is the Kerala Minister for information Technology?
(A) K. Babu (B) P.K. Kunbalikutty
(C) Thiruvanchur Radhakrishnan (D) K.C. Joseph

91. Which is the largest constitution in the world?
(A) American (B) British
(C) Swedish (D) Indian

92. Prime Minister's office situates in :
(A) South Block (B) North Block
(C) Central Block (D) West Block

93. Who was the first Chief Editor of "Mathrubhoomi"?
(A) N.V. Krishna Varier (B) U.P. Gopala Menon
(C) K.P. Kesava Menon (D) K. Madhavan Nair

94. The place where Gandhiji delivered his first speech in Kerala :
(A) Kochi (B) Ottappalam
(C) Guruvayur (D) Kozhikode

95. Headquarters of ISRO :
(A) Bangalore (B) Thumba
(C) Hyderabad (D) Sriharikota

96. 'Arangu Kanatha Nadan' is the autobiography of :
(A) N.N. Pillai (B) Malayattoor Ramakrishnan
(C) Thikkodiyan (D) C.J. Thomas

97. Expand NAAC :
(A) National Assessment and Accreditation Council
(B) National Assessment and Affiliation Council
(C) National Authorisation and Affiliation Council
(D) National Accreditation and Assessment Council

98. Which is the Headquarters of Nair Service Society?
(A) Varkala (B) Chengannur
(C) Kottayam (D) Perunna

99. 'Ayyankali' stood for the social upliftment of :
(A) Pulayas (B) Viswakarmas
(C) Ezhavas (D) Nadars

100. Which is the TV channel of Kerala Education Department?
(A) Edusat (B) Victers
(C) IT @ School (D) Vidyarangam