VOCATIONAL TEACHER-CIVIL CONSTRUCTION & MAINTENANCE(VHSE)

EXAM :07-05-2016

1.The first staff reading is taken after the level is setup is called

A.Back sight*

B.Fore sight

C.Intermediate sight

D.None of these

Ans:A

2.In coastal region minimum grade of concrete for RCC as per IS 456-2000:

A.M15

B.M20

C.M25

D.M30*

Ans:D

3.The number of plastic hinges necessary to convert a beam fixed at one end and propped at other end is:

A.1

B.2*

C.3

D.4

Ans:B

4.The bitumen grade 80/100 indicates:

A.Viscosity

B.Specific gravity

C.Penetration*

D.None of these

Ans:C

5.The maximum limit of super elevation for plain terrain as per IRC recommendations is:

A.1 in 10*

B.1 in 15

C.1 in 20

D.1 in 30

Ans:A

6.A simply supported beam carries a working live load of 2.5 kN/m and dead load is 3.5 kN/m.The design load for limit state of collapse is:

A.6 kN

B.7 kN

C.9 kN*

D.12 kN

Ans:C

7.Standard EDTA solution is used to determine:

A.Hardness in water*

B.Acidity in water

C.Chlorides in water

D.All of these

Ans:A

8.For a bar of diameter 'd' the anchor age value of hook is:

A.8d

B.10d

C.16d*

D.20d

Ans:C

9.The ability of material to absorb large amount of energy is:

A.Elasticity

B.Ductility

C.Hardness

D.Toughness*

Ans:D

10.The unit in which both sedimentation and digestion process of sludge take place simultaneously is:

A.Digestion tank

B.Skimming tank

C.Imhoff tank*

D.Detritus tank

Ans:C

11.In the theory of plastic bending of beams,the ratio of plastic moment to yield moment is:

A.Shape factor*

B.Plastic section modulus

C.Bulk modulus

D.Shear modulus

Ans:A

12.Camber on highway pavement is provided to take care of:

A.Centrifugal force

B.Drainage*

C.Sight distance

D.Off tracking

Ans:B

13.Fine aggregate confirming of which zone is not recommended for making reinforced concreate:

A.Zone I

B.Zone II

C.Zone III

D.Zone IV*

Ans:D

14.The quantity of Gypsum added in cement varies from 2 to 3% will depend upon the quantity of:

A.C3A in cement*

B.C4AF in cement

C.C3S in cement

D.C2S in cement

Ans:A

15.Strain Energy per unit volume is called:

A.Resilience

B.Proof resilience

C.Bulk resilience

D.None of these*

Ans:D

16.Bond between steel and concrete ensures:

A.Stress compatibility

B.Strain compatibility*

C.Both (A) and(B)

D.None of these

Ans:B

17.Rapid curing cutback bitumen is produced by lending bitumen with:

A.Benzene*

B.Kerosine

C.Diesel

D.Petrol

Ans:A

18.The relationship between the length(I)and radius(r)of an ideal transition curve is given by:

A.la r

B.I a 1/r

C.I a r^2

D.I a 1/r^2*

Ans:D

19.The minimum dissolved oxygen content(ppm)in a river necessary for the survival of aquatic life is:

A.0

B.2

C.3

D.4*

Ans:D

20.Spire test is used for adjustment of:

A.Line of sight

B.Adjustment of altitude bubble

C.Horizontal axis*

D.Vertical axis

Ans:C

21.The ratio of shear stress to shear strain is constant within elastic limit is called
A.Torsional rigidity
B.Modulus of rigidity*

C.Young's modulus

D.Volumetric strain

Ans:B

22.In trigonometric leveling,combined correction is:

A.0.0673 D^2m*

B.0.0112 D^2m

C.0.0785 D^2m

D.None of these

Ans:A

23.The increase in metacentric height:

A.Increase stability *

B.Decrease stability

C.Increase comfort for passengers

D.All of these

Ans:A

24.What is the angle between two plane mirrors of an optical square?

A.15^0

B.30^0

C.45^0*

D.90^0

Ans:C

25.Characteristic compressive strength of concrete is:

A.The same as the average cylinder strength

B.The same as the average cube strength*

C.Lower than the average cylinder strength

D.Higher than the average cube strength

Ans:B

26.Distances are measured with instruments that rely on propagation,reflection and subsequent reception of either radio,visible light or infra red waves by:

A.Geodimeter

B.Telluro meter

C.Distomat

D.All of these*

Ans:D

27.Coagulation-flocculation with alum is performed:

A.Before screening

B.After rapid sand filteration

C.Before rapid sand filteration*

D.Immediately before chlorination

Ans:C

28.Three point problem can be solved by:

A.Graphical method

B.Tracing paper method

C.Trial and error method

D.All of these*

Ans:D

29.The mass production of railway sleepers can be done with:

A.Hoyer system*

B.Magnel system

C.Gifford udall system

D.None of these

Ans:A

30.A pre-stressed concrete beam is loaded with two point loads.The profile of cable is laid based on the load balancing concept,the shape of profile is:

A.Paraboli

B.Triangular

C.Trapezoidal*

D.None of these

Ans:C

31.For a station to be free of local attraction:

A.Fore and back bearings of the line should be exactly same

B.Fore and back bearings of line should differ by exactly 180^0*

C.Fore and back bearings of line should be measured accurately

D.None of these

Ans:B

32.Closed contours with higher value inside represent a:

A.Hill*

B.Valley

C.Plain surface

D.None of these

Ans:A

33.Consistency index for a clayey soil is[Liquid limit=LL,Plastic limit=PL,Plasticity index=PI and natural water content=WJ:

A.LL-PL

B.(W-PL)/PI

C.(LL-W)/PI*

D.All of these

Ans:C

34.In a cantilever beam,if the length is doubled while keeping the cross section and the concentrated load acting at the free end is same,the deflection at the free end will increase by:

A.2 times

B.4 times

C.6 times

D.8 times*

Ans:D

35.In leveling height of instrument is:

A.Height of leveling staff

B.Elevation of plane of collimation*

C.Height of Tripod

D.Sum of reduced level of BM and foresight

Ans:B

36.Roof truss is provided when the span is:

A.Less than 4 m

B.More than 5 m*

C.Between 4 m and 5m

D.All of these

Ans:B

37.A 10 cm theodolite means that:

A.Diameter of the graduated circle of its lower plate is 10 cm*

B.Length of its telescope is 10 cm

C.Height of the telescope is 10 cm

D.Diameter of the graduated circle of its vertical circle is 10 cm

Ans:A

38.A column of length L,one end fixed,at other end lateral displacement and partial rotation.The effective length of column is:

A.0.5 L

B.0.7 L

C.L

D.1.5 L*

Ans:D

39.The expected life of cement concrete floor is taken as:

A.10 years*

B.25 years

C.50 years

D.100 years

Ans:A

40.The boundaries between the pavement and shoulder or foot paths are called:

A.Kerbs*

B.Burrow pit

C.Berms

D.None

Ans:A

41.Vertical windows built on sloping sides of a pitched roof:

A.Corner window

B.Bay window

C.Dormer window*

D.Glazed window

Ans:C

42.If 20 m arc length is the basis for the degree of curve then radius of curve is:

A.573/D metres

B.1146/D metres*

C.1600/D metres

D.5730/D metres

Ans:B

43.A pin jointed plane frame with'n' number of member and 'j'number of joints will be stable:

A.n=2j-3*

B.n>2j-3

C.n<2j-3

D.None of these

Ans:A

44.The permissible shear stress in concrete for beams without shear reinforcement depends upon:

A.Grade of concrete

B.Percentage of tension reinforcement

C.Both(A)and (B)*

D.None

Ans:C

45.The minimum grade of concrete used for post-tensioning system is:

A.M20

B.M30*

C.M40

D.M60

Ans:B

46.A thin cylindrical vessel of internal diameter'd' and thickness 't' subjected to fluid pressure'p' longitudinal stress is:

A.pd/2t

B.pd/t

C.pd/4t*

D.pd/8t

Ans:C

47.Reciprocal leveling eliminates the effect of:

A.Errors due to curvature of earth

B.Errors due to atmospheric refraction

C.Errors due to line of collimation

D.All of these*

Ans:D

48.Pile caps are used on a group of piles to:

A.Increase the load bearing of each pile

B.Protect the piles from lateral displacement

C.Protect in case of offshore structure

D.Spread the vertical and horizontal loads to all the piles*

Ans:D

49.According to IS 456-2000,maximum compressive stress in concrete for design purpose is taken as:

A.0.380 fck

B.0.416 fck

C.0.446 fck*

D.0.670 fck

Ans:C

50.The relative density of a soil having maximum dry density rd(max)=2 minimum dry density 1.2 and normal density is 1.6:

A.75%

B.62.5%*

C.66.67%

D.50%

Ans:B

51.If the uniformity coefficient Cu=9 and coefficient of curvature Cc=1 for a soil then D30/D10 for the soil is:

A.1

B.2

C.3*

D.4

Ans:C

52.The whole circle bearings of line AB and BC and $60^015'$ and $150^030'$.What is the included angle ABC between the lines AB and BC:

A.$90^0 15'$

B.$210^0 45'$

C.$149^0 15'$

D.$89^0 45'$*

Ans:D

53.The distance from two point on a photographic point to the principal line are 68.24 mm to left and 58.48 mm to the right.The angle between the two points measured with a transit theodolite is $44^0 30'$.Focal length of the lens is equal to:

A.150 mm

B.154.7 mm*

C.160 mm

D.180 mm

Ans:B

54.It is proposed to put in a circular curve of 20 chains radius with transition curves 3 chains long at each end.The total deflection angle of the combined curve is $40^0 30'$.The total tangent length in chains is:

A.8.882*

B.10.98

C.15

D.18.50

Ans:A

55.Which of the following figure are equal to one acre?

A.43560 sq.ft

B.40 Gunthas

C.10 sq.Gunter's chain*

D.All of these

Ans:C

56.A cylindrical shell is 3 m long and 1000 mm internal diameter and 15 mm thickness is subjected to an internal pressure of 1.5 N/mm^2.The maximum shear stress developed in N/mm^{2}is:

A.12.5*

B.15.5

C.16

D.18.3

Ans:A

57.Slenderness ratio of a 5 m long column fixed at both ends and having a circular cross section with dia 10 cm is:

A.100*

B.125

C.150

D.200

Ans:A

58.The shape factor of rectangular section:

A.1

B.1.5*

C.2

D.2.5

Ans:B

59.Negative float can occur in case of:

A.Normal activity

B.Critical activity

C.Sub-critical activity

D.Super critical activity*

Ans:D

60.Sea water has a total dissolved solids concentration of about:

A.360 mg/litre

B.3,600 mg/litre

C.36,000 mg/litre*

D.3,60,000 mg/litre

Ans:C

61.Maximum value of strain hardening modulus occurs:

A.At the beginning of strain hardening curve

B.During first half of strain-hardening curve*

C.During second half of strain hardening curve

D.At the end of strain hardening curve

Ans:B

62.A 30 m metric chain is found to be 10 cm too short throughout a measurement.If the distance measured is recorded as 300m.What is the actual distance?

A.300.1 m

B.299 m*

C.301 m

D.304 m

Ans:B

63.The unknown multiplies or independent constants used for finding most probable values of unknown are known as:

A.Correlates*

B.Matching value

C.Adjustment factors

D.None of these

Ans:A

64.The photographic coordinates of pt A is +8.48 mm and -16.38 mm.The focal length of the lens is 120.80 mm.Azimuth of the camera axis is $10^0 53'$.Azimuth of B is:

A.$32^0 40'$

B.$11^0 53'$

C.$18^0 48'$

D.$14^0 53'$*

Ans:D

65.The void ratio and specific gravity of a soil are 0.65 and 2.72 respectively.The degree of saturation in percent corresponding to water content of 20% is:

A.65.3

B.83.7*

C.20.9

D.54.4

Ans:B

66.Auxiliary theodolite station near an inaccessible main triangulation station:

A.Change point

B.Benchmark

C.Satellite station*

D.None of these

Ans:C

67.The maximum and minimum number of steps in a flight is equal to:

A.12 and 1

B.18 and 2

C.24 and 3

D.12 and 3*

Ans:D

68.What is the angle of intersection of a contour and a ridge line?

A.0^0

B.90^0*

C.180^0

D.270^0

Ans:B

69.If stiffness of a metal increases its ductility:

A.Decreases*

B.Increases

C.Remains same

D.None of these

Ans:A

70.Temporary hardness in water is caused by the presence of:

A.Chlorides of Ca and Mg

B.Nitrates of Ca and Mg

C.Bicarbonates of Ca and Mg*

D.Sulphates of Ca and Mg

Ans:C

71.A header bond is usually used for

A.Half brick wall

B.One brick wall*

C.One and a half brick wall

D.Two brick wall

Ans:B

72.Endurance limit of a metal is determined by:

A.Hardness test

B.Torsion test

C.Impact test

D.Fatigue test*

Ans:D

73.An instrument is used to measure distance,horizontal angle and vertical angle:

A.Theodolite

B.Distomat

C.Total station*

D.Tacheometer

Ans:C

74.For steel grade fy=415 N/mm^2 the value of xu max/d is:

A.0.48*

B.0.46

C.0.43

D.0.53

Ans:A

75.A depression formed in a surface layer longitudinal to the road by the wheels of travelling vehicles is called:

A.Depression

B.Blow hole

C.Pothole

D.Rut*

Ans:D

76.Two and a half brick thickness of wall is roughly equal to:

A.10 cm

B.20 cm

C.40 cm

D.50 cm*

Ans:D

77.In this process the soil particles are forced to move closer together by pounding action:

A.Rolling

B.Ramming*

C.Kneading

D.Vibrations

Ans:B

78.White cement contains the following ingredient in least amount?

A.Lime

B.Silica

C.Iron oxide*

D.None of these

Ans:C

79.Brick should have a minimum compressive strength of:

A.5.5 N/mm^2

B.8 N/mm^2

C.10 N/mm^2*

D.12.5 N/mm^2

Ans:C

80.According to limit state of collapse values of partial safety factor for steel and concrete are

A.1 and 1

B.1 and 1.2

C.1 and 2

D.1.15 and 1.5*

Ans:D

81.The author of the novel 'Agnisakshi':

A.V.T.Bhattathiripad

B.Lalithambika Antharjanam*

C.Arya Pallam

D.Lalitha Prabhu

Ans:B

82.Who established Ananda Mahasabha:

A.Brahmananda Sivayogi*

B.Vagbhadananda

C.Swami Agamananda

D.Swami Ananda Theerthan

Ans:A

83.KP.Keshavan Menon is the founder of which popular news paper in Kerala:

A.Deshabhimani

B.Kerala Kaumudi

C.Madhyamam

D.Mathrubhumi*

Ans:D

84.Which among the following award was not received by Vaikom Muhammed Basheer?

A.Vallathol Award

B.Padmashri Award

C.Jnanpith Award*

D.Muttathu Varkey Award

Ans:C

85.Which among the following is not the work of S.K.Pottekkad?

A.Oru Deshathinte Katha

B.Kayar*

C.Naadan Premam

D.Oru Theruvinte Katha

Ans:B

86.From which country India borrowed the concept of preamble of Indian Constitution:

A.Germany

B.U.S.A*

C.Canada

D.Spain

Ans:B

87.'Right to Education Act'included,in which article:

A.Article 22

B.Article 23

C.Article 51(A)

D.Article 21(A)*

Ans:D

88.In which year Dr.A.P.J.Abdul Kalam received Bharat Ratna:

A.1981

B.1990

C.1997*

D.1998

Ans:C

89.Who was the Indian shuttler to win silver medal in 2015 World Badminton Championship?

A.Saina Nehwal*

B.P.V.Sindhu

C.Jwala Gutta

D.Kidembi Srikanth

Ans:A

90.The programme aims to provided housing for the rural poor in India:

A.Samagra Awaas Yojana

B.Bharat Nirman

C.Indira Awaas Yojana*

D.Antyodaya Anna Yojana

Ans:C

91.In which year university of Travancore established?

A.1937*

B.1875

C.1930

D.1957

Ans:A

92.Who prepared the first authentic book in Malayalam Grammar?

A.Rev.Mead

B.Herman Gundert*

C.Dawson

D.Twinkle Tab

Ans:B

93.The scheme aims at opening a zero balance bank account for every Indian family:

A.Samagra Awaas Yojana

B.Valmiki Ambedkar Awass Yojana

C.Sampoorna Grameen Rozgar Yojana

D.Jan Dhan Yojana*

Ans:D

94.Who founded the organization vaala samudaya parishkarani sabha?

A.Pandit K.P.Karuppan*

B.Ayya Vaikundar

C.Kumara Guru

D.Sahodaran Ayyappan

Ans:A

95.Which among the following was the organization of vaikunta swami?

A.Prathyaksha Raksha Daiva

B.Samatva Samajan*

C.Yogakshema Sabha

D.SNDP Yogam

Ans:B

96.Kuttamkulam Sathyagraha associated with which temple:

A.Guruvayur temple

B.Chottanikara temple

C.Koodalmanikyam temple*

D.Vaikom Temple

Ans:C

97.The protest against the policy of appointing outsiders to Travancore service known as:

A.Paliyam Satyagraha

B.Abstention Movement

C.Ezhava Memorial

D.Malayali Memorial*

Ans:D

98.The news paper started by Vakkom Maulavi in 1905:

A.Al-Ameen

B.Prabhatham

C.Kesari

D.Swadeshabhimani*

Ans:D

99.The father of the library movement in Kerala:

A.KM Panikkar

B.P.Kesavadev

C.P.N.Panicker*

D.P.C.Kuttikrishnan

Ans:C

100.The first woman in India to became a high court judge:

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A.Annachandy*

B.Fathima Beevi

C.Akkama Cheriyan

D.Sujatha Manohar

Ans:A