RECRUITMENT EXAMINATION

Advertisement No. HVSU/18/ENT /007 dt. 07/11/2018

JUNIOR ENGINEER (CIVIL)

A

Max. Marks : **90 Marks**
Time : **90 Minutes**

1. Specific weight of water in S.I. units is equal to

   (A) 1000 N/m^3

   (B) 10000 N/m^3

   (C) 9.81 x 10^3 N/m^3

   (D) 9.81 x 10^6 N/m^3

2. When the flow parameters at any given instant remain same at every point, then flow is said to be

   (A) Quasi static

   (B) Steady state

   (C) Laminar

   (D) Uniform

3. The tendency of a liquid surface to contract is due to the following property

   (A) Cohesion

   (B) Adhesion

   (C) Viscosity

   (D) Surface tension

4. A pitot tube is used measure

   (A) Pressure

   (B) Difference in pressure

   (C) Velocity of flow

   (D) None of these

5. A hydraulic structure is designed to withstand

   (A) Seepage force

   (B) Hydraulic Jump

   (C) Hydraulic pressure

   (D) All of these

6. A hydraulic jump is generally formed when a stream moving with

   (A) A hyper-critical velocity meets a stream moving with a critical velocity

   (B) A hyper-critical velocity meets a stream moving with a hyper-critical velocity

   (C) A hyper-critical velocity meets a stream moving with a sub-critical velocity

   (D) A sub-critical velocity meets a stream moving with a hyper-critical velocity.

7. The size of a plane table is

   (A) 750 mm × 900 mm

   (B) 600 mm × 750 mm

   (C) 450 mm × 600 mm

   (D) 300 mm × 450 mm

8. Contour interval is

   (A) The vertical distance between two consecutive contours

   (B) The horizontal distance between two consecutive contours

   (C) The vertical distance between two points on same contour

   (D) The horizontal distance between two points on same contour

9. After fixing the plane table to the tripod, the main operations which are needed at each plane table station are

   (i) Levelling

(ii) Orientation

(iii) Centering

The correct sequence of these operations is

(A) (i), (ii), (iii)

(B) (i), (iii), (ii)

(C) (iii), (i), (ii)

(D) (ii), (iii), (i)

10. There are two stations A and B. Which of the following statements is correct?

(A) The fore bearing of AB is bearing of line AB

(B) The back bearing of AB is bearing of line AB

(C) The fore and back bearings of AB differ by 90°

(D) All the above

11. The main principle of surveying is to work

(A) From part to whole

(B) From whole to part

(C) From higher to the lower level

(D) From lower to higher level

12. To find the RL of a roof slab of building, staff readings were taken from a particular setup of the leveling instrument. The readings were 1.050 m with staff on the bench mark and 2.3 m with staff below roof slab and held inverted. Taking the RL of bench mark as 135.15 m, the RL of roof slab will be

(A) 129.800
(B) 131.900
(C) 134.400
(D) 138.500

13. The material in which large deformation is possible before the absolute failure or rupture is termed as
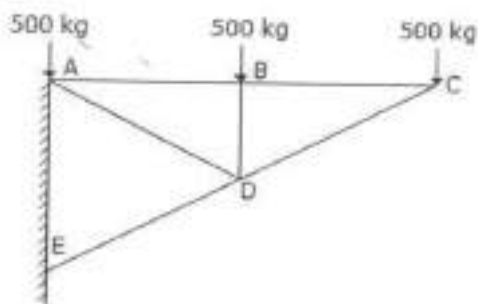
(A) Brittle

(B) Elastic

(C) Ductile

(D) Plastic

14. The B.M. diagram of the beam shown in below figure, is

(A) A rectangle

(B) A triangle

(C) A trapezium

(D) A parabola

15. The force in BD of the truss shown in below figure is:

(A) 500 kg compressive

(B) 500 kg tensile

(C) 1500 kg tensile

(D) 1500 kg compressive

16. Poisson ratio of a material is 0.3. Then the ratio of Young's modulus to bulk modulus is

(A) 2.6

(B) 2.0

(C) 1.6

(D) 1.3

17. A well-seasoned timber has a moisture content of about

(A) 15% to 20%

(B) 10% to 12%

(C) 5% to 8%

(D) 2% to 3%

18. Rolled steel angle sections are classified as
    (A) Flats
    (B) Plates
    (C) Equal angles
    (D) all the above

19. The size of a butt weld is specified by the effective throat thickness which in the case of incomplete penetration, is taken as
    (A) ½ of the thickness of thicker part
    (B) ¾ of the thickness of thicker part
    (C) ¾ of the thickness of thinner part
    (D) 5/8 of the thickness of thinner part

20. Effective length of a column effectively held in position and restrained in directions at both ends, is
    (A) L
    (B) 0.67 L
    (C) 0.85 L
    (D) 1.5 L

21. Maximum permissible slenderness ratio of compression members which carry dead and superimposed load, is
    (A) 350
    (B) 250
    (C) 180
    (D) 80

22. According to IS specifications, the maximum pitch of bolts in compression is
    (A) lesser of 200 mm and 12 t
    (B) lesser of 200 mm and 16 t
    (C) lesser of 300 mm and 32 t
    (D) lesser of 300 mm and 24 t

23. Angle of inclination of the lacing bars with the longitudinal axis of the column should preferably be
    (A) 10° to 30°
    (B) 30° to 40°
    (C) 40° to 70°
    (D) 90°

24. A city supply includes
    (A) Domestic water demand

(B) Industrial and commercial water demands
(C) Demand for public uses and fire
(D) All the above

25. If L, B and D length, breadth and depth of water in a rectangular sedimentation tank of total discharge Q, the settling velocity, is
(A) Q/H
(B) Q/D
(C) Q/(D × B)
(D) Q/(L × B)

26. The main disadvantage of hard water, is
(A) Lesser soap consumption
(B) cannot be used for drinking
(C) Corrosion and incrustation of pipes
(D) All the above

27. The portion of a brick cut across the width, is called
(A) closer
(B) half brick
(C) bed
(D) bat

28. For fish habitat in a river, the minimum dissolved oxygen required is
(A) 2 mg/l
(B) 4 mg/l
(C) 6 mg/l
(D) mg/l

29. The sewer that unloads the sewage at the point of treatment is called
(A) Main sewer
(B) Outfall sewer
(C) Branch sewer
(D) House sewer

30. Los Angeles testing machine is used to conduct
(A) Abrasion test
(B) Impact test
(C) Attrition test
(D) Crushing strength test

31. When the bituminous surfacing is done on already existing black top road or over existing cement concrete road, the type of treatment given is
(A) Seal coat
(B) Tack coat
(C) Prime coat

(D) Spray of emulsion   •

32. Pick up the incorrect statement from the following. The super-elevation on roads is
   (A) directly proportional to width of pavement
   (B) directly proportional to velocity of vehicles
   (C) inversely proportional to acceleration due to gravity
   (D) inversely proportional to the radius of curvature

33. If the width of the foundation for two equal columns is restricted, the shape of the footing generally adopted, is
   (A) Square
   (B) Rectangular
   (C) Trapezoidal
   (D) Triangular

34. If the ratio of the span to the overall depth does not exceed 10, the stiffness of the beam will ordinarily be satisfactory in case of a
   (A) Simply supported beam
   (B) Continuous beam
   (C) Cantilever beam
   (D) None of these

35. In a single reinforced beam, if the permissible stress in concrete reaches earlier than that in steel, the beam section is called
   (A) under-reinforced section
   (B) over reinforced section
   (C) economic section
   (D) critical section.

36. The maximum area of tension reinforcement in beams shall not exceed
   (A) 0.15%
   (B) 1.5%
   (C) 4%
   (D) 1%

37. Spacing of stirrups in a rectangular beam, is
   (A) Kept constant throughout the length
   (B) Decreased towards the centre of the beam
   (C) Increased at the ends
   (D) Increased at the centre of the beam

38. The diameter of longitudinal bars of a column should never be less than
   (A) 12 mm

(B) 8 mm

(C) 10 mm

(D) 6 mm

39. The type of bond in which every course contains both headers and stretchers, is called

(A) English bond

(B) Flemish bond

(C) Russian bond

(D) Mixed bond

40. The maximum total settlement for isolated foundations on clayey soils should be limited to

(A) 25 mm

(B) 40 mm

(C) 75 mm

(D) 100 mm

41. For testing compressive and tensile strength of cement, the cement mortar is made by mixing cement and standard sand in the proportions of

(A) 1 : 2

(B) 1 : 3

(C) 1 : 4

(D) 1 : 6

42. Which of the following is the purest form of iron?

(A) Cast iron

(B) Wrought iron

(C) Mild steel

(D) High carbon steel

43. The minimum water content at which the soil just begins to crumble when rolled into threads 3 mm in diameter, is known

(A) Liquid limit

(B) Plastic limit

(C) Shrinkage limit

(D) Permeability limit

44. The ratio of the volume of voids to the volume of soil solids in a given soil mass, is known

(A) Porosity

(B) Specific gravity

(C) Void ratio

(D) Water content

45. The effective size of particles of soil is denoted by
   (A) D10
   (B) D20
   (C) D30
   (D) D60

46. If the failure of a finite slope occurs through the toe, it is known as
   (A) slope failure
   (B) face failure
   (C) base failure
   (D) toe failure.

47. For a given road safe stopping sight distance 80 m and overtaking sight distance is 300 m. What is the intermediate sight distance?
   (A) 150 m
   (B) 160 m
   (C) 200 m
   (D) 300 m

48. The ultimate bearing capacity of a soil, is
   (A) Pressure at which soil fails due to settlement
   (B) Safe pressure on the bearing area
   (C) Pressure at which soil fails in shear.
   (D) Pressure at which soil consolidates.

49. The Terzaghi's general bearing capacity equation for a continuous footing is given by (where N_c, N_q & and $N\gamma$ are bearing capacity factors.)
   (A) $q_f = cN_c + \gamma DN_q + 0.5\gamma BN\gamma$
   (B) $q_f = cN_c \div \gamma DN_q + 0.5\gamma BN\gamma$
   (C) $q_f = cN_c + \gamma DN_q - 0.5\gamma BN\gamma$
   (D) $q_f = cN_c - \gamma DN_q - 0.5\gamma BN\gamma$
   B is width of footing and D is depth of footing; q_f is ultimate bearing capacity

50. If a water tank partially filled with water is being carried on a truck, moving with a constant horizontal acceleration, the level of liquid will
   (A) Rise and fall alternately on the front side of the tank
   (B) Fall on the rear side of the tank*
   (C) Remain the same on both sides of the tank
   (D) Rise on the rear side and fall on front side of the tank

General English

Q51. Choose the one which best expresses the meaning of the given word:

FLAUNT

(A) Cut   (B) Deceive

(C) Exhibit   (D) Blame

Q52. Find out which part of the sentence has an error:

I as well as my friend (a)/are enjoying ourselves (b)/ at the college annual function.(c)/No error(d)

(A) (a)   (B) (b)

(C) (c)   (D) (d)

Q53. Pick the right meanings of the following **idiom and phrase**:

At the drop of the hat

(A) As soon as it was spoken

(B) Done easily, without any preparation

(C) Done in an instant

(D) After something is done

Q54. Choose the one which is most opposite in meaning to the given word:

Quiescent

(A) indifferent

(B) weak

(C) active

(D) responsive

Q55. Fill in the blank with suitable article:

He hopes to join _____ university soon.

(A) an   (B) a   (C) the   (D) no article

Q56. Fill in the blank:

The officer has stayed away from _____ **populism such as raising the income tax exemption limit.**

(A)restricted

(B)classified

(C)overt

(D)furtive

Q57. **Directions:** In question given below, the first and the last sentences are numbered 1 and 6. Remaining sentences are named P,Q, R and S. These four sentences are not given in their proper order. Read the sentences and find out which of the four combinations is correct:

1: All plants that grow in the deserts are cleverly equipped to withstand the heat and make full use of what little water exists.

P: However, there are occasional showers, but much of the water runs off swiftly instead of sinking into the ground.

Q: Cacti and other succulents brilliantly solve the problem of storage of water.

R: Instead of being leaves, they have extensive root system which is their life-savers.

S: In the deserts, soil temperature may rise to very high level and the soil is often bone dry.

6: The great networks of roots, which remain close to the surface soak quickly any water that reach them.

(A) SPQR   (B) PQRS   (C) SRQP   (D) SQPR

Q58. Choose the correct option to complete the sentence given below:

I_____ English tea. Is it good?

(A) am drinking
(B) have never drunk
(C) drink
(D) have drunk

Q59. Pick out the most effective word from the given options to fill in the blank to make the sentence meaningfully complete:

The miser gazed _____ at the pile of gold coins in front of him.

(A) avidly
(B) admiringly
(C) thoughtfully
(D) earnestly

Q60. **Directions: Read the following passage to answer the given question based on it-**

I felt the wall of the tunnel shiver. The master alarm squealed through my earphones. Almost simultaneously, Jack yelled down to me that there was a warning light on. Fleeting but spectacular sights snapped into ans out of view, the snow, the shower of debris, the moon, looming close and big, the dazzling sunshine for once unfiltered by layers of air. The last twelve hours before re-entry were particular bone-chilling. During this period, I had to go up in to command module. Even after the fiery re-entry splashing down in 81° water in south pacific, we could still see our frosty breath inside the command module.

Which one of the following reasons would one consider as more as possible for the warning lights to be on?

(A) There was a shower of debris.

(B) Jack was yelling.

(C) A catastrophe was imminent.

(D) The moon was looming close and big.

General English

Q61. **Painting : Artist : : Symphony : ?**

(A) Novelist

(B) Poet

(C) Essayist

(D) Composer

Q62. A family of 10 members over three generation goes to a picnic. Kapil is the father of Boby and has only one son. Ratna is the son-in-law of Atma and the father of Jetha. Sonu is the uncle of Champa. Charu is the aunt of Babita, who is the daughter of Daya. Daya is the daughter in law of Kapil. Atma is the mother of Charu who has two children. Each child has both of its parents alive.

How many married couples are there in the family?

(A) 1   (B) 2   (C) 3   (D) 4

Q63. Rajni is 5 ranks ahead of Raj in a class of 46 students. If Raj's rank is twelfth from the last, what is Rajni's rank from the start?

(A) 29

(B) 31

(C) 28

(D) 30

Q64. **Statements:** In a one day cricket match, the total runs made by a team were 200. Out of these 160 runs were made by spinners.

Conclusion I: 80% of the team consists of spinners.

Conclusion II: The opening batsmen were spinners.

(A) Only conclusion I follows

(B) Only conclusion II follows

(C) Either I or II follows

(D) Neither I nor II follows

Q65. Select a suitable figure from the four alternatives that would complete the figure matrix.

(1)   (2)   (3)   (4)

(A) 1   (B) 2   (C) 3   (D) 4

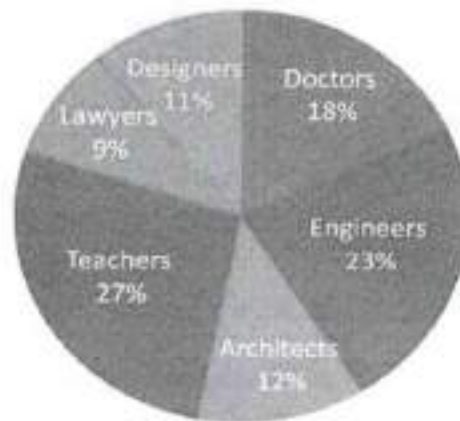Q66. Choose the alternative which is closely resembles the mirror image of the given word:

JUDGEMENT

(1) TNEMEGDUJ   (2) TИƎMƎGᗡUᒐ
(3) TИƎMƎᗡᗡUᒐ   (4) ᒐUᗡGƎMƎИT

(A)   1   (B) 2   (C) 3   (D) 4

Directions: Study the following pie-chart and table carefully and answer the question given below:

A survey was conducted on 14500 people to find out various professionals in a town and the percentage of female professionals amongst them

Percentage of Female professionals

Doctors	16%
Engineers	45%
Architects	38%
Teachers	65%
Lawyers	32%
Designers	53%

Q67. What is the ratio of male Engineers and Designers to the females of the same profession in the town?

(A) 891 : 809   (B) 783 : 717
(C) 1325 : 1281   (D) 372 : 305

Q68. Complete the series: $2\sqrt{3}$, $2\sqrt{5}$, $\sqrt{30}$, $\sqrt{42}$, $2\sqrt{14}$, ?

A) $6\sqrt{2}$ (B) $\sqrt{60}$ (C) $5\sqrt{3}$ (D) $3\sqrt{5}$

Q69. In a certain code, **PRODUCTIONS** is written as **QQPCVEUHPMT**. How is **ORIENTATION** written in that code?

(A) PQJDOVBSJNO

(B) PQJDOUBUJPO

(C) PSJFOVBSJNO

(D) NSHFMVBSJNO

Q70. Mohan is facing north and walks 20 km. He turns 270° anti-clockwise and walks 20 km. He again turns 45° clockwise and walks for 20 km. Which direction is he facing now?

(A) North-West

(B) South-West

(C) North-East

(D) South-East

Q71. Which of the following states have signed agreement for Renukaji multipurpose dam project?

(A) Uttar Pradesh, Uttarakhand and Himachal Pradesh

(B) Delhi, Rajasthan and Uttarakhand

(C) Delhi, Haryana and Uttar Pardesh

(D) All of the above

Q72. Who has been named as India's Chef de Mission for the 2020 Tokyo Olympics?

(A) Birendra Prasad Bhaishya

(B) Brij Bhushan Saran Singh

(C) Abhinav Bindra

(D) Sukhdev Sharma

Q73. ISRO has launched which initiative with students to engage them on space science activities?

(A) Space

(B) Sansad

(C) Samwad

(D) Sangrah

Q74. Which of the following Mughal emperor is famous for his golden chain of justice?

(A) Akbar

(B) Shahjahan

(C) Jahanagir

(D) Babur

Q75. India's largest cancer hospital-cum-research facility has been launched in which of the following states?

(A) Himachal Pradesh

(B) Haryana

(C) Maharashtra

(D) Jammu and Kashmir

Q76. The Andaman and Nicobar Islands are submerged parts of mountain range called:

(A) Arakan Yoma

(B) Pegu Yoma

(C) Askai Chin

(D)Tien Shan

Q77. Lok Sabha recently passed the Constitution 124 th (Amendment) Bill, 2019. The 124th amendment deals with?

(A)Citizenship

(B)Reservation

(C)Power of RBI Governor

(D)None of these

Q78. RBI , recently on 8th Jan released guidelines on tokenisatio for various card transactions including debit and credit cards. What is tokensiation refers to?

(A)Safe and Secure payment system

(B)No extra cost on card payments

(C)Card loan

(D)None of these

Q79. The Airports Authority of India (AAI) has declared 16 airports free from which kind of plastics?

(A)Single use plastic

(B)Recyclable Plastic

(C)Polythene

(D)None of these

Q80. Which country is set become the world's first country to make all its public transport free by 2019?

(A) Laos

(B)Vietnam

(C)Luxembourg

(D) Venezuela

81. The term GIGO is related to which characteristics of computers?
   A) Speed   B) Automatic
   C) Accuracy   D) Reliability

82. A name or number used to identify storage location devices?
   A) A byte   B) A record
   C) An address   D) All of above

83. ONE NIBBLE equals to
   A) 1 bits   B) 2 bits
   C) 4 bits   D) 8 bits

84. Computer menu is a collection of
   A) Commands   B).orders
   C) Instructions   D) icons

85. Computer files can exist in folders but folders cannot exist in a
   A) paths   B) files
   C) folders   D) documents

86. Internet is
   A) Dynamic system   B) Complex system
   C) Decentralized system   D) All of the above

87. The convenient place to store contact information in email for quick retrieval is
   A) Address box   B) Message box
   C) Address book   D) None of the above

88. Which is the default alignment in word?
   A) Left   B) Right
   C) Centre   D) Justify

89. How do you display current date and time in MS Excel?
   A) date ()   B) Today ()
   C) now ()   D) time ()

90. When using PowerPoint, to play a PowerPoint show for previewing the show, select
   A)View, slide sorter   B)View, slide
   C)View, slide show   D) View outline

SVSU Recrutment Examination 2019
Loaded Key Sheet for : 08 - J.E (Civil) , Set Code : A

Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key
1	C	21	C	41	B	61	D	81	C
2	D	22	A	42	B	62	C	82	C
3	D	23	C	43	B	63	A	83	C
4	C	24	D	44	C	64	D	84	A
5	D	25	D	45	A	65	C	85	B
6	C	26	C	46	D	66	C	86	D
7	B	27	D	47	B	67	A	87	C
8	A	28	B	48	C	68	A	88	A
9	B	29	B	49	A	69	A	89	C
10	A	30	A	50	D	70	D	90	C
11	B	31	B	51	C	71	D	91	X
12	D	32	B	52	B	72	A	92	X
13	C	33	B	53	B	73	C	93	X
14	A	34	C	54	C	74	C	94	X
15	A	35	B	55	B	75	B	95	X
16	A	36	C	56	C	76	A	96	X
17	B	37	D	57	A	77	B	97	X
18	C	38	A	58	B	78	A	98	X
19	B	39	B	59	A	79	A	99	X
20	B	40	C	60	C	80	C	100	X