

Test Booklet  
Series

**A**

Paper No.

**05**

Written Test Paper, 2021

**SKILL INSTRUCTOR  
(CIVIL)**

Test Booklet No.

Name of Applicant ..... Answer Sheet No. ....

Application No. : SVSU/2020/Estt/NT/ ..... Signature of Applicant : .....

Date of Examination: **25 / 12 / 2021**

Signature of the Invigilator(s)

1. ....

Time of Examination : .....

2. ....

**Duration : 60 Minutes]**

**[Maximum Marks : 50**

**IMPORTANT INSTRUCTIONS**

- (i) The question paper is in the form of Test-Booklet containing **50 (Fifty)** questions. All questions are compulsory. Each question carries four answers marked (A), (B), (C) and (D), out of which only one is correct.
- (ii) On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **50** questions. Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.
- (iii) A separate Answer-Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are **50** rows containing four circles each. One row pertains to one question.
- (iv) The candidate should write his/her Application number at the places provided on the cover page of the Test-Booklet/Question Paper and on the Answer-Sheet and NOWHERE ELSE.
- (v) No second Test-Booklet/Question Paper and Answer-Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.
- (vi) For every correct answer of the question **One (1) mark will be awarded**. For every unattempted question, Zero (0) mark shall be awarded. **There is no Negative Marking**.
- (vii) Marking shall be done only on the basis of answers responded on the Answer-Sheet.
- (viii) To mark the answer on the Answer-Sheet, candidate should **darken** the appropriate circle in the row of each question with Blue or Black pen.
- (ix) For each question only **one** circle should be **darkened** as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the question will be treated as cancelled.
- (x) The candidates should not remove any paper from the Test-Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.
- (xi) Rough work may be done on the blank space provided in the Test-Booklet/Question Paper only.
- (xii) *Mobile phones (even in Switch-off mode) and such other communication/programmable devices are not allowed inside the examination hall.*
- (xiii) No candidate shall be permitted to leave the examination hall before the expiry of the time.

**DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO.**

[P.T.O.

**5 / 1**



1. The effective length of a compression member of length  $L$  held in position and restrained in direction at one end and effectively restrained in direction but not held in position at the other end, is
  - (A)  $L$
  - (B)  $0.67 L$
  - (C)  $0.85 L$
  - (D)  $1.5 L$
2. For determination of allowable stress in axial compression, Indian Standard Institution has adopted
  - (A) Euler's formula
  - (B) Rankine formula
  - (C) Engesser formula
  - (D) Secant formula
3. Diameter of a rivet hole is made larger than the diameter of the rivet by
  - (A) 1.0 mm for rivet diameter upto 12 mm
  - (B) 1.5 mm for rivet diameter exceeding 25 mm
  - (C) 2.0 mm for rivet diameter over 25 mm
  - (D) None of these.
4. In a liquid limit test, the moisture content at 10 blows was 70% and that at 100 blows was 20%. The liquid limit of the soil, is
  - (A) 35%
  - (B) 50%
  - (C) 65%
  - (D) None of these.
5. The minimum water content at which the soil just begins to crumble when rolled into threads mm in diameter, is known as
  - (A) liquid limit
  - (B) plastic limit
  - (C) shrinkage limit
  - (D) permeability limit.
6. For determining the moisture content of a soil sample, the following data is available  
Weight of container = 260 g, Weight of soil sample and = 320 g container, Weight of soil sample (dried) and = 310 g container.  
The moisture content of the soil sample, is
  - (A) 15%
  - (B) 18%
  - (C) 20%
  - (D) 25%
7. Pick up the correct statement from the following:
  - (A) The phenomenon of quicks and generally occurs in the cohesionless soil
  - (B) At critical hydraulic gradient, the saturated sand becomes quick
  - (C) The critical gradient depends on the void ratio and the specific gravity
  - (D) All the above.
8. A grillage foundation
  - (A) is provided for heavily loaded isolated columns
  - (B) is treated as spread foundation
  - (C) consists of two sets of perpendicularly placed steel beams
  - (D) All the above.
9. Pile foundations are generally preferred to for
  - (A) bridge foundations
  - (B) sky scrapper buildings
  - (C) residential buildings
  - (D) runways.

10. The centre of gravity of a triangle is at the point where three
- medians of the triangle meet
  - perpendicular bisectors of the sides of the triangle meet
  - bisectors of the angle of the triangle meet
  - None of these.
11. The forces which meet at one point and have their lines of action in different planes are called
- coplaner non-concurrent forces
  - non-coplaner concurrent forces
  - non-coplaner non-current forces
  - intersecting forces
12. The angle of friction is :
- The ratio of the friction and the normal reaction
  - The force of friction when the body is in motion
  - The angle between the normal reaction and the resultant of normal reaction and limiting friction
  - The force of friction at which the body is just about to move.
13. The unit of force in C.G.S. system of units, is called
- dyne
  - Newton
  - kg
  - All the above.
14. Which one of the following represents an activity
- excavation for foundation
  - curing of concrete
  - setting of question paper
  - All the above.
15. Pick up the incorrect statement from the following :
- An activity of a project is denoted by an arrow on the net work
  - The tail of the arrow indicates the start of the activity
  - The head of the arrow indicates the end of the activity
  - The arrows are drawn to scale from left to right
16. Mile Stone charts were invented in the year of
- 1910
  - 1920
  - 1930
  - 1940
17. Frederick W. Taylor introduced a system of working known as
- line organisation
  - line and staff organisation
  - functional organisation
  - effective organisation.
18. For quality control of Portland cement, the test essentially done is
- setting time
  - soundness
  - tensile strength
  - All the above.
19. Under normal conditions using an ordinary cement, the period of removal of the form work, is :
- 7 days for beam soffits
  - 14 days for bottom slabs of spans 4.6 m and more
  - 21 days for bottom beams over 6 m spans
  - All the above.

20. For given water content, workability decreases if the concrete aggregates contain an excess of
- (A) thin particles
  - (B) flat particles
  - (C) elongated particles
  - (D) All the above.
21. Separation of coarse aggregates from mortar during transportation, is known as
- (A) bleeding
  - (B) creeping
  - (C) segregation
  - (D) shrinkage
22. As per I.S. 456 – 1978, the pH value of water shall be
- (A) less than 6
  - (B) equal to 6
  - (C) not less than 6
  - (D) equal to 7
23. The minimum recommended diameter of sewers, is
- (A) 5 cm
  - (B) 10 cm
  - (C) 15 cm
  - (D) 20 cm.
24. Aerobic bacteria
- (A) flourish in the presence of free oxygen
  - (B) consume organic matter as their food
  - (C) oxidise organic matter in sewage
  - (D) All the above
25. The most dangerous pollutant in vehicular emissions is
- (A) CO
  - (B) SO<sub>2</sub>
  - (C) CO<sub>2</sub>
  - (D) O<sub>3</sub>.
26. The pH value of fresh sewage is usually
- (A) equal to 7
  - (B) more than 7
  - (C) less than 7
  - (D) equal to zero.
27. The factor responsible for purification of sewage in river is
- (A) Hydrology
  - (B) Dissolved oxygen in water
  - (C) Temperature
  - (D) All the above
28. Traps
- (A) are water seals which prevent the entry of foul gases
  - (B) are used to trap the rats entering sewers
  - (C) dissolve the foul gases
  - (D) create syphonic action to increase the quick disposal of sewerage.
29. Pick up the correct statement from the following :
- (A) The boning rod is used for checking the levels of the sewer inverts
  - (B) Manhole covers are made circular for the convenience of the cleaning staff
  - (C) A manhole is classified as deep manhole if its depth is more than 1.5 m
  - (D) All the above.

30. In the activated sludge process
- (A) aeration is continued till stability
  - (B) aeration is done with an admixture of previously aerated sludge
  - (C) sludge is activated by constant stirring
  - (D) water is removed by centrifugal action.
31. Which of the following is called the secondary air pollutant?
- (A) PANs
  - (B) Ozone
  - (C) Carbon monoxide
  - (D) Nitrogen Dioxide
32. Which of the following particles is called the particulate pollutants?
- (A) Ozone
  - (B) Radon
  - (C) Fly Ash
  - (D) Ethylene
33. Which of the following agents is responsible for turning the Taj Mahal yellow?
- (A) Sulphur
  - (B) Chlorine
  - (C) Sulphur dioxide
  - (D) Nitrogen dioxide
34. Which of the following diseases are caused by smog?
- (A) Rickets
  - (B) Bronchitis
  - (C) Breathing Problems
  - (D) All of the above
35. Which of the following gas is more in percentage in the air?
- (A) Oxygen gas
  - (B) Nitrogen gas
  - (C) Water vapour
  - (D) Carbon dioxide gas
36. Which of the following solid wastes describes the term 'Municipal Solid Waste'?
- (A) Toxic
  - (B) Hazardous
  - (C) Non-toxic
  - (D) Non-hazardous
37. Why is it difficult to recycle plastics?
- (A) It is very hard
  - (B) It comes in different sizes
  - (C) It is adhesive
  - (D) It contains different types of polymer resins
38. The process of burning municipal solid wastes under suitable temperature and conditions in a specific furnace is called \_\_.
- (A) Landfill
  - (B) Incineration
  - (C) Recycling
  - (D) Vermicomposting
39. When the organic matter present in the sanitary landfill decomposes, it generates
- (A) Methane
  - (B) Nitrogen
  - (C) Hydrogen
  - (D) All of the above

40. Which of the following can be recycled many times?  
(A) Wood  
(B) Plastic  
(C) Aluminium  
(D) Organic materials
41. Wastewater from different sources like bathrooms, kitchens, and washbasins is called \_\_\_\_\_  
(A) Discharge  
(B) Sullage  
(C) Garbage  
(D) Sewage
42. Which of the following represents the heavier inert matter in wastewater?  
(A) Screens  
(B) Grit  
(C) Debris  
(D) Waste
43. Which of the following is constructed outside the building to carry wastewater discharge?  
(A) S. trap  
(B) Gully trap  
(C) Floor trap  
(D) P. trap
44. The wastewater which does not contain sewage is known as \_\_\_\_\_  
(A) Sewerage  
(B) Grey water  
(C) Sullage  
(D) Sewage
45. Which pollution cause hearing loss in organisms?  
(A) Air pollution  
(B) Noise pollution  
(C) Water pollution  
(D) Soil pollution
46. All sound is noise.  
(A) True  
(B) False  
(C) Neither True nor False  
(D) Can't be ascertained
47. Which of the following is/are basic building materials?  
(A) Wood  
(B) Cement  
(C) Brick  
(D) All of the mentioned
48. Which of the following type of foundation is used for the construction of building on black cotton soil?  
(A) Grillage foundation  
(B) Inverted arch foundation  
(C) Floating foundation  
(D) Mat foundation
49. In old times, the construction of superstructure was done by using \_\_\_\_\_ building material.  
(A) Rubber  
(B) Timber  
(C) Bamboo  
(D) Mud
50. \_\_\_\_\_ is a metamorphic rock with compressive strength varies from 1.8 to 3.1 Newton per mm square.  
(A) Murum  
(B) Gneiss  
(C) Laterite  
(D) Chalk

## ROUGH WORK

## Answer Key SKILL INSTRUCTOR (CIVIL ENGINEERING)

1. A	26. B
2. D	27. D
3. C	28. A
4. C	29. D
5. B	30. B
6. C	31. B
7. D	32. C
8. D	33. C
9. B	34. D
10. A	35. B
11. B	36. D
12. C	37. D
13. A	38. B
14. D	39. A
15. D	40. C
16. D	41. C
17. C	42. B
18. D	43. B
19. D	44. C
20. D	45. B
21. C	46. B
22. C	47. D
23. C	48. D
24. D	49. B
25. A	50. C