WBMSC
SAE

Previous Year Paper
(Civil Engineering)
02 Nov, 2025

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WBMSC/web/29/Direct **Dated the Kolkata 14th November, 2025**

NOTIFICATION

DISPLAY OF PROVISIONAL ANSWER KEYS TO THE QUESTIONS FOR WRITTEN EXAMINATION FOR RECRUITMENT TO THE POST OF SUB-ASSISTANT ENGINEER (CIVIL) (ADVT. NO. 06 OF 2025) UNDER KMC HELD ON 02/11/2025 (SUNDAY).
[QUESTION BOOKLET CODE: SCKM (Annexed herewith)]

The provisional Answer Keys to the Questions for written examination for recruitment to the post of Sub-Assistant Engineer (Civil) under Kolkata Municipal Corporation (Advt. No. 06 of 2025) are hereby published for information to the candidates.

The candidates are requested to visit the website and upload their claims and objections, if any, on the Answer Key-options uploaded as follows, in their opinions. The candidates are required to submit the correct answers, if at variance with the provisional Answer Keys as follows in their opinions, indicating Test / Question Booklet code, Question Booklet number, Roll No. etc., specific for each particular candidate, along with scanned copies of the front page of Question Booklet and the concerned page(s) of the Question Booklet between 17th November, 2025 and 23rd November, 2025 by accessing the link provided at www.mscwb.org. No claims for correction of Answer Key will be entertained beyond the specified period as mentioned above.

The claims and objections will not be entertained through any other medium.

Answer Keys to Booklet Code – SCKM

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

Annexure: As mentioned.

WEST BENGAL MUNICIPAL SERVICE COMMISSION

Deputy Secretary, WBMSC
Deputy Secretary
West Bengal Municipal Service Commission
149, A.J.C. Bose Road, Kolkata-700014

1. The instrument used to measure horizontal angles is

(A) Level
(B) Theodolite
(C) Compass
(D) Chain

2. The branch of mechanics that deals with bodies at rest or in equilibrium is

(A) Dynamics
(B) Kinematics
(C) Kinetics
(D) Statics

3. The moment of inertia of a triangular section (base b, height h) about centroidal axis parallel to the base, is

(A) $\frac{bh^3}{12}$
(B) $\frac{bh^3}{3}$
(C) $\frac{bh^3}{36}$
(D) $\frac{bh^3}{2}$

4. A ball of mass 1 kg moving with a velocity of 2 m/sec collides a stationary ball of mass 2 kg and comes to rest after impact. The velocity of the second ball after impact will be

(A) zero
(B) 0.5 m/sec
(C) 1.0 m/sec
(D) 2.0 m/sec

5. Pick up the item of work not included in the plinth area estimate.

(A) Wall thickness
(B) Courtyard area
(C) Verandah area
(D) W.C. area

6. If tensile stress of a steel rod of diameter D is 1400 kg/cm^2 and bond stress is 6 kg/cm^2, the required bond length of the rod is

(A) 30 D
(B) 40 D
(C) 50 D
(D) 59 D

7. If 2% solution of a sewage sample is incubated for 5 days at 20ºC and depletion of oxygen was found to be 5 ppm, B.O.D. of the sewage is

(A) 200 ppm
(B) 225 ppm
(C) 250 ppm
(D) None of the above

8. The coagulant widely used for sewage treatment, is

(A) alum
(B) ferric chloride
(C) ferric sulphate
(D) chlorinated copperas

9. In India the recording type rain gauge generally used, is

(A) Weighing type.
(B) Tipping type.
(C) Float recording type.
(D) None of the above

10. Precipitation caused due to upward movement of warmer air as compared to surrounding air, is called

(A) cyclonic precipitation.
(B) convective precipitation.
(C) orographic precipitation.
(D) None of the above

11. If the loss due to friction in pipes is 4 m, the total losses in strainer and bends may be taken as

(A) 0.10 m
(B) 0.20 m
(C) 0.5 m
(D) 1.0 m

12. A district road with a bituminous pavement has a horizontal curve of 1000 m for a design speed of 75 kmph. The super-elevation is

(A) 1 in 40
(B) 1 in 50
(C) 1 in 60
(D) 1 in 70

13. Cement grouted pavement is classified as

(A) Rigid pavement.
(B) Semi-rigid pavement.
(C) Flexible pavement.
(D) None of the above

14. The wall constructed for the stability of a back filling portion of a road on the downhill side, is known as

(A) Retaining wall.
(B) Breast wall.
(C) Parapet wall.
(D) All of the above

15. Indian Road Congress (I.R.C.) was founded and constituted with its headquarters at New Delhi, in

(A) 1924
(B) 1927
(C) 1930
(D) 1934

16. Various activities of a project, are shown on bar charts by

(A) vertical lines
(B) horizontal lines
(C) dots
(D) crosses

17. The specific retention is least in case of

(A) clay
(B) sand
(C) silt
(D) coarse gravel

18. Aeration of water is done to remove

(A) odour
(B) colour
(C) hardness
(D) turbidity

19. An earth formation which, although porous and capable of absorbing water does not provide an appreciable supply to wells, is known as

(A) Aquifer
(B) Aquiclude
(C) Aquifuge
(D) None of the above

20. The ratio of shearing stress to shearing strain within elastic limit, is known as

(A) modulus of elasticity.
(B) shear modulus of elasticity.
(C) bulk modulus of elasticity.
(D) tangent modulus of elasticity.

Please Turn Over

21. Web crippling generally occurs at the point where

(A) bending moment is maximum.
(B) shearing force is minimum.
(C) concentrated loads act.
(D) deflection is maximum.

22. Factor of safety is the ratio of

(A) yield stress to working stress.
(B) tensile stress to working stress.
(C) compressive stress to working stress.
(D) bearing stress to working stress.

23. The deflection of beams may be decreased by

(A) increasing the depth of beam.
(B) increasing the span.
(C) decreasing the depth of beam.
(D) increasing the width of beam.

24. The maximum area of tension reinforcement in beams shall not exceed

(A) 0.15%
(B) 1.5%
(C) 4.0%
(D) 1.0%

25. The minimum cube strength of concrete used for a prestressed member, is

(A) 50 kg/cm^2
(B) 150 kg/cm^2
(C) 250 kg/cm^2
(D) 350 kg/cm^2

26. An under-reinforced section means

(A) steel is provided at the under side only.
(B) steel provided is insufficient.
(C) steel provided on one face only.
(D) steel will yield first.

27. Minimum spacing between horizontal parallel reinforcement of the same size should not be less than

(A) one diameter.
(B) 2.5 diameters.
(C) 3.0 diameters.
(D) 4.0 diameters.

28. The stresses developed in concrete and steel in reinforced concrete beam of 25 cm width and 70 cm effective depth, are 62.5 kg/cm^2 and 250 kg/cm^2 respectively. If $m = 15$, the depth of its neutral axis is

(A) 20 cm
(B) 25 cm
(C) 30 cm
(D) 35 cm

29. For no tension in a compression member, the maximum eccentricity permitted along an axis is

(A) $\frac{d}{6}$
(B) $\frac{d}{4}$
(C) $\frac{d}{3}$
(D) $\frac{d}{2}$

where 'd' is the depth of section along the axis.

30. Moment of inertia of a hollow circular section about $x - x$ axis and $y - y$ axis is

(A) $\frac{\pi}{64} \times (D^3 - d^3)$

(B) $\frac{\pi}{64} \times (D^2 - d^2)$

(C) $\frac{\pi}{64} \times (D - d)$

(D) $\frac{\pi}{64} \times (D^4 - d^4)$

(D = diameter of outer circle, d = diameter of cut-out circle.)

31. Euler's critical load for the column is

(A) $\frac{\pi^2 EI}{L^2}$

(B) $\frac{\pi^2 EI}{4L^2}$

(C) $\frac{2\pi^2 EI}{L^2}$

(D) $\frac{2\pi^2 EI}{2L^2}$

32. Compression members tend to buckle in the direction of the

(A) least radius of gyration.

(B) minimum cross-section.

(C) axis of load.

(D) perpendicular to the axis of the load.

33. The section modulus of a circular section about an axis through its C.G., is

(A) $\frac{\pi}{4} d^2$

(B) $\frac{\pi}{16} d^2$

(C) $\frac{\pi}{16} d^3$

(D) $\frac{\pi}{32} d^3$

34. A hollow circular section having 8 cm outer diameter and 6 cm inner diameter, the radius of gyration will be

(A) 1.5 cm

(B) 2.0 cm

(C) 2.5 cm

(D) 3 cm

35. Minimum grade of concrete to be used in reinforced concrete as per IS: 456-2000 is

(A) M 15

(B) M 20

(C) M 10

(D) M 25

36. A steel rod of 2 cm diameter and 5 m long is subjected to an axial pull of 3000 kg. If E = 2.1×10^6 kg/cm^2, the elongation of the rod will be

(A) 2.274 cm

(B) 0.2274 cm

(C) 0.02274 cm

(D) 2.02274 cm

37. The workability of concrete is influenced most by its

(A) water-cement ratio.

(B) aggregate cement ratio.

(C) cement content.

(D) water content.

38. For a water-cement ratio = 0.60, the amount of water required for one bag of cement is

(A) 30 litres

(B) 25 litres

(C) 20 litres

(D) 22 litres

Please Turn Over

39. The most common cause of acidity in water is

(A) Carbon dioxide
(B) Oxygen
(C) Hydrogen
(D) Nitrogen

40. The purpose of adding Pozzolana in cement is

(A) to decrease shrinkage.
(B) to decrease heat of hydration.
(C) to increase durability.
(D) for quick development of final strength.

41. The safe bearing capacity of a soil weighing 1600 kg/m^3 is 16 tonnes per square meter. If the angle of repose is 30º, the depth of the foundation required is

(A) 90 cm
(B) 110 cm
(C) 100 cm
(D) 120 cm

42. The presence of calcium and magnesium chloride in water causes

(A) bad taste
(B) turbidity
(C) softness
(D) hardness

43. Crushing strength of a first class brick should not be less than

(A) 35 kg/cm^2
(B) 70 kg/cm^2
(C) 105 kg/cm^2
(D) 140 kg/cm^2

44. The fore bearing of the lines AB and BC are measured as 146º30′ and 68º30′. The included angle ABC is recorded as

(A) 102º
(B) 155º
(C) 78º
(D) 25º

45. Number of bricks required for one cubic meter of brick masonry is

(A) 400
(B) 450
(C) 500
(D) 550

46. Earnest money is the amount which is required for

(A) purchasing a tender.
(B) starting a contract job.
(C) submission along with tender.
(D) None of the above

47. The estimated value of a built up property at the end of its useful life without being dismantled is called

(A) Scrap value
(B) Salvage value
(C) Market value
(D) Book value

48. The total length of a cranked bar through a distance (d) at 45º in case of a beam of effective length (L) is

(A) L + 0.42d
(B) L – 0.42d
(C) L – 2 × 0.42d
(D) L + 2 × 0.42d

49. Sewers should be laid

(A) on a sharp curvature.

(B) with a very stiff gradient.

(C) on the road level.

(D) straight from manhole to manhole and below ground.

50. The maximum efficiency of B.O.D. removal is achieved in

(A) Oxidation pond

(B) Digestion tank

(C) Trickling filter

(D) Septic tank

51. The cleaning of slow sand filter is done by

(A) passing air through filter.

(B) reversing the direction of flow of water.

(C) scraping off the top layers of sand and admitting water.

(D) passing solution of alum and lime through filter.

52. The water content in percentage of a fully saturated soil sample having voids ratio 0.75 and sp.gr. 2.5 will be

(A) 0.3%

(B) 3%

(C) 30%

(D) 300%

53. Shear strength of soil is determined by

(A) Stoke's law

(B) Terzaghi's theory

(C) Coulomb's law

(D) Mohr's theory

54. In made-up ground of low bearing power heavy concentrated structure at loads are supported by providing

(A) combined footing.

(B) strap footing.

(C) raft footing.

(D) isolated footing.

55. A soil has a bulk density of 22 kN/m^3 and water content of 10%. The dry density of soil is

(A) 18.6 kN/m^3

(B) 20 kN/m^3

(C) 22 kN/m^3

(D) 23.2 kN/m^3

56. Coefficient of compressibility of soil is the ratio of

(A) stress to strain.

(B) strain to stress.

(C) stress to settlement.

(D) rate of loading to that of settlement.

57. According to IS: 1172-1963, the consumption of water per capita per day for domestic purpose is

(A) 85 litres

(B) 115 litres

(C) 100 litres

(D) 135 litres

58. The standard Symon's raingauge has collecting area of diameter

(A) 12.7 cm

(B) 10 cm

(C) 5.05 cm

(D) 25.4 cm

Please Turn Over

59. The due of a crop is 432 hectares/cumec, when the base period of the crop is 100 days. Delta for the crop will be

(A) 132 cm
(B) 200 cm
(C) 464 cm
(D) 846 cm

60. Surface dressing applied to bituminous pavement is used for

(A) wearing course of new bituminous pavement.
(B) repair of existing wearing course of bituminous pavement.
(C) seal coat of existing old bituminous pavement.
(D) seal coat to new bituminous pavement.

61. Glazing is used to make earthenware

(A) hard
(B) impervious
(C) soft
(D) porus

62. A waterbound macadam (WBM) road is an example of

(A) rigid pavement.
(B) semi-rigid pavement.
(C) flexible pavement.
(D) None of the above

63. AS per I.R.C., the width of a two-lane carriageway with kerb should be

(A) 3.5 m
(B) 5.5 m
(C) 6.0 m
(D) 7.5 m

64. An isometric view provides

(A) just another elevation detail.
(B) a two-dimensional details.
(C) a three-dimensional details.
(D) equal projection line of equal length.

65. The representative fraction 1/5000 means that the scale is 1 cm equal to

(A) 0.5 m
(B) 5 m
(C) 5 km
(D) 50 m

66. The ratio of crippling loads of a column having both ends fixed and the column having both ends hinged, is

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

67. The top diameter, bottom diameter and the height of a slump mould are

(A) 10 cm, 20 cm, 30 cm.
(B) 10 cm, 30 cm, 20 cm.
(C) 20 cm, 10 cm, 30 cm.
(D) 20 cm, 30 cm, 10 cm.

68. Pantagraph is used for

(A) measuring distances.
(B) measuring areas.
(C) enlarge or reducing plans.
(D) setting out right angle.

69. A well is considered to be good if it is sunk into

(A) clay
(B) sand
(C) silt
(D) coarse gravel

70. It is customary to design a sewer for D.W.F. on the basis of

(A) average demand.
(B) twice the average demand.
(C) thrice the average demand.
(D) four times of the average demand.

71. An ideal flow of a liquid obeys

(A) Continuity equation.
(B) Newton's law of viscosity.
(C) Newton's 2nd law of motion.
(D) Dynamic viscosity law.

72. If the dew point is greater than 0°C,

(A) frost will be formed.
(B) dew will be formed.
(C) vapours will be formed.
(D) None of the above

73. From a nozzle exposed to atmosphere, the liquid jet traverses

(A) a straight line.
(B) a circular path.
(C) an elliptical path.
(D) a parabolic path.

74. A train moving at 30 kmph is struck by a bullet moving 500 m/s at right angles to the train. The direction with which the bullet appears to strike the train, is

(A) 30°
(B) 60°
(C) 90°
(D) 50°

75. The maximum deflection of a simply supported beam of span L, carrying an isolated load at the centre of the span; flexural rigidity being EI, is

(A) $WL^3/(3EI)$
(B) $WL^3/(8EI)$
(C) $WL^3/(24EI)$
(D) $WL^3/(48EI)$

76. A welded rail joint is generally

(A) supported on sleeper.
(B) supported on metal plate.
(C) suspended.
(D) All of the above

77. Galvanizing means covering iron with a thin coat of

(A) tin
(B) zinc
(C) glaze
(D) coal tar

78. The maximum percentage of chemical ingredient of cement is

(A) lime
(B) alumina
(C) magnesium oxide
(D) iron oxide

Please Turn Over

79. Setting time of cement increases by adding
(A) gypsum
(B) calcium chloride
(C) sodium oxide
(D) calcium sulphate

80. Fluid changes its volume under external pressure due to
(A) compressibility
(B) viscosity
(C) plasticity
(D) None of the above

81. Alum is chemically
(A) copper sulphate.
(B) aluminium sulphate.
(C) ferrous sulphate.
(D) ferric sulphate.

82. Extra length required for an end anchorage or hook
(A) 14 Φ
(B) 6 Φ
(C) 24 Φ
(D) 9 Φ

83. If the discharge running half is 628 lt. per sec, $i = 0.001$ and $n = 0.010$, the diameter of the sewer is
(A) 1.39 m
(B) 1.49 m
(C) 1.59 m
(D) 1.69 m

84. In slow sand filter, the turbidity of raw water can be removed only up to
(A) 75 mg/lt
(B) 150 mg/lt
(C) 100 mg/lt
(D) 60 mg/lt

85. Window which is provided on a sloping roof of a building, is called
(A) Lantern window.
(B) Dormer window.
(C) Louvered window.
(D) Rash window.

86. The formula $V = \frac{1}{n} r^{2/3} S^{1/2}$ used for determining the velocity of flow in sewers, is known as
(A) Chezy's formula.
(B) Bazin's formula.
(C) Kutter's formula.
(D) Manning's formula.

87. If a paper moistened with lead acetate for five minutes placed in manhole, it turns black. Sewer certainly contains –
(A) Hydrogen sulphide (H_2S)
(B) Carbon dioxide (CO_2)
(C) Methane (CH_4)
(D) None of the above

88. The standard B.O.D. of water is taken for
(A) 1 day
(B) 2 days
(C) 3 days
(D) 5 days

89. Lacquer is
(A) oil paint
(B) distemper
(C) spirit varnish
(D) None of the above

90. A simply supported beam is subjected to a linearly varying load from one end to another end. The nature of variation of shear force diagram is
(A) linear
(B) parabolic
(C) elliptic
(D) 3rd degree curve

91. Distemper consists of
(A) colour cement and water.
(B) drying agent.
(C) moisture preventing.
(D) chalk, pigment and water.

92. I.S. code considers concrete has reached its limit state of collapse when the strain is
(A) 0.0015
(B) 0.0020
(C) 0.0030
(D) 0.0035

93. A simply supported beam of size 400 mm × 600 mm is supported on walls of 300 mm wide, the clear span is 4 m and 20 mm diameter reinforcement used. As per I.S. code the effective span of the beam is
(A) 4.6 m
(B) 4.4 m
(C) 4.3 m
(D) None of the above

94. Which of the following has high tensile strength?
(A) Mild steel
(B) Plain hot rolled wires
(C) Cold drawn wires
(D) Thermo mechanically treated bars

95. Which one of the following is not limit state serviceability?
(A) Vibration
(B) Corrosion
(C) Loss of stability
(D) Fire

96. Stoke is the unit of
(A) specific volume.
(B) specific weight.
(C) dynamic viscosity.
(D) kinematic viscosity.

97. The science that considers the forces causing flow of fluids is known as
(A) Statics of fluid.
(B) Dynamics of fluid.
(C) Kinematics of fluid.
(D) None of the above

98. A solid construction across a river in its water level and divert the water into the canal is known as
(A) Dam
(B) Weir
(C) Bund
(D) Barrage

99. The portion of the roadway between outer edges of carriageway and drains in case of cutting is known as
(A) Kerb
(B) Shoulder
(C) Formation width
(D) Right of way

100. For the design of flexible pavement, Indian Road Congress recommends
(A) Trained Test method.
(B) Group Index method.
(C) Burmister method.
(D) CBR method.

Space for Rough Work