



सीएसआईआर मद्रास कॉम्प्लेक्स

CSIR MADRAS COMPLEX

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद / Council of Scientific and Industrial Research)

सीएसआईआर परिसर CSIR Campus, तरमणि Taramani, चेन्नै Chennai 600 113

सं.No. MC/2/2(45)/2021-Rct.

दिनांक Dated: 21-09-2026

अधिसूचना / NOTIFICATION

Sub: Recruitment to the post of Technical Officer (Civil) [AE(Civil)] - Display of Answer Keys- reg.

Ref: CSIR Madras Complex Advertisement No. MC/02/2021

The Competitive Written Examination for recruitment to the post of Technical Officer (Civil) [AE(Civil)] in CSIR Madras Complex, Chennai held on 18-08-2026 (Paper I and II) and 20-09-2026 (Paper III). In this regard, the Answer Keys for the Competitive Written Examination Paper I, II and III are attached herewith.

Candidates who wish to raise any objection or representation in respect of the Answer Keys, if any, may submit their representation by email to recruit.cmc@csir.res.in on or before **25.09.2026 (Friday), 5:00 PM**. Representations received beyond the stipulated timeline will not be entertained.

The candidates are requested to visit CSIR Madras Complex website regularly for further updates.

Shailash Kumar
21.9.26

(शैलेश कुमार/Shailash Kumar)

प्रशासन अधिकारी/ Administrative Officer

Encl: As above

ANSWER KEY FOR PAPER – 1

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

PAPER II

ANSWER KEY

Q. No.	Option	Q. No.	Option
1	D	26	B
2	B	27	B
3	B	28	C
4	C	29	D
5	A	30	B
6	B	31	A
7	C	32	B
8	B	33	B
9	B	34	B
10	B	35	B
11	B	36	B
12	C	37	A
13	D	38	B
14	B	39	C
15	B	40	A
16	B	41	C
17	C	42	C
18	A	43	B
19	C	44	B
20	A	45	B
21	C	46	B
22	C	47	C
23	B	48	B
24	A	49	C
25	C	50	B

Paper III – Civil Engineering - Key

Q.No.	Correct Option	Correct Answer
1	B	Stress is directly proportional to strain
2	B	Lateral strain / Longitudinal strain
3	B	$(WL/4)$
4	B	$(bd^2/6)$
5	B	$(+\tau)$ and $(-\tau)$
6	C	$(P^2L/2AE)$
7	B	Effective length / Radius of gyration
8	B	1.0 mm
9	C	40 kN·m
10	C	80 MPa
11	B	$(m=2j-3)$
12	B	Moving loads
13	C	$(1/2)$
14	B	Displacement method
15	C	$(wL^2/12)$
16	B	Can undergo large rotation approximately at constant plastic moment
17	B	Relative stiffness of the members meeting at the joint
18	C	0.60
19	B	23.33 kN
20	C	112 kN
21	B	Tension steel yields before concrete crushes
22	B	Shear
23	C	$(L_y/L_x > 2)$
24	A	Bar diameter and stress in the bar
25	B	Increasing effective length and decreasing radius of gyration

Q.No.	Correct Option	Correct Answer
26	B	Lateral-torsional buckling
27	B	Increased load-carrying capacity of the weld
28	B	1780 mm ²
29	C	1755 kN
30	B	Yielding of tension steel provides ductility and warning before collapse
31	B	Workability of fresh concrete
32	B	Surface moisture around sand particles
33	B	Increases strength
34	B	Time-dependent deformation under sustained stress
35	A	Freeze-thaw action
36	A	Surface hardness and approximate concrete quality
37	A	Soluble salts
38	C	1200 kg
39	C	38.25 MPa
40	B	Suitable sulphate-resistant binder with low-permeability concrete
41	B	Total stress – pore-water pressure
42	B	(LL-PL)
43	B	Upward hydraulic gradient reaches the critical hydraulic gradient
44	A	Saturated clay
45	A	Bearing capacity and settlement behaviour
46	B	Acts downward and adds load to the pile
47	A	Expansive soils
48	C	50 kPa
49	B	15 kN/m ³
50	C	630 kPa

Q.No.	Correct Option	Correct Answer
51	A	$(A_1 V_1 = A_2 V_2)$
52	C	$(Fr=1)$
53	B	Inertial forces / Viscous forces
54	B	Dissipate excess kinetic energy
55	A	One unit depth of effective rainfall of specified duration uniformly distributed over the catchment
56	B	1%
57	B	Reduce seepage and improve conveyance efficiency
58	C	0.0628 m ³ /s
59	B	7.5 kPa
60	B	Statements 1, 2 and 3 only
61	A	Biodegradable organic pollution
62	B	Disinfection
63	C	Greater than or equal to BOD
64	A	Destabilize colloidal particles
65	A	Suspended-growth biological treatment process
66	B	Attached-growth biological treatment
67	B	Calcium and magnesium
68	C	400 kg/day
69	C	2.0 mg/L
70	C	Enhanced nitrogen and phosphorus removal
71	B	Surface drainage
72	A	Subgrade strength
73	B	Counteract the effect of centrifugal force
74	A	Perception-reaction distance + braking distance
75	A	Develop bond between successive pavement layers

Q.No.	Correct Option	Correct Answer
76	A	Transfer load across transverse joints
77	A	Load distribution, drainage and track stability
78	C	108 m
79	D	16
80	A	Tensile strains in the bituminous layer
81	A	Reduced level is known
82	A	Equal elevation
83	A	Clockwise from north from (0°) to (360°)
84	A	An obstacle such as a river
85	A	Electronic angular and distance measurement with data processing
86	A	Ground area represented by a pixel
87	A	Points, lines and polygons
88	C	99.200 m
89	B	130 m
90	C	120 m
91	B	Longest duration and zero total float
92	A	Descriptions and quantities of work items
93	B	Probabilistic
94	B	CPI = 0.80, indicating the project is over budget
95	C	Alternative dispute resolution
96	B	Relative displacement has occurred
97	A	Storing and transmitting groundwater
98	B	8 days
99	B	Determine and transmit correction information to improve rover accuracy
100	C	1650 m ³