

National Testing Agency

Question Paper Name :	Concrete Technology 29th August 2021 Shift 2
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Concrete Technology

Group Number :	1
Group Id :	94091885
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Break time :	0
Group Marks :	100
Is this Group for Examiner? :	No

Concrete Technology -1

Section Id :	940918123
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	940918169
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 9409185658 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 2 Wrong Marks : 0

M15 grade concrete is categorized as

1. Ordinary concrete
2. Lean mix
3. High strength concrete
4. Good concrete

Options :

- 94091821245. 1
- 94091821246. 2
- 94091821247. 3
- 94091821248. 4

Question Number : 2 Question Id : 9409185659 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 2 Wrong Marks : 0

What is the full form of PCC?

1. Plan cement concrete
2. Plain cement concrete
3. Pressed cement concrete
4. Packed cement concrete

Options :

94091821249. 1

94091821250. 2

94091821251. 3

94091821252. 4

Question Number : 3 Question Id : 9409185660 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Strength of concrete

1. decreases with age of concrete
2. increases with age of concrete
3. decreases for first 7 days and then decreases with age of concrete
4. does not depend on age of concrete

Options :

94091821253. 1

94091821254. 2

94091821255. 3

94091821256. 4

Question Number : 4 Question Id : 9409185661 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Concrete is

1. weak in tension
2. strong in tension
3. weak in compression
4. strong in tension but weak in compression

Options :

94091821257. 1

94091821258. 2

94091821259. 3

94091821260. 4

Question Number : 5 Question Id : 9409185662 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Steel reinforcement is provided in compression zone

1. to restrict the size of concrete member
2. when member is subjected to reversal of stresses
3. both of the options
4. neither of these

Options :

94091821261. 1

94091821262. 2

94091821263. 3

94091821264. 4

Question Number : 6 Question Id : 9409185663 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Cement Concrete can be defined as mixture of cement, fine aggregate, coarse aggregate and water

1. in some specified proportion
2. in random proportion
3. without any consideration for their proportion
4. having all the materials in the same proportion

Options :

94091821265. 1

94091821266. 2

94091821267. 3

94091821268. 4

Question Number : 7 Question Id : 9409185664 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Concrete is graded according to its

1. Shear strength
2. Tensile strength
3. Compressive strength
4. Shear and Tensile strength, both

Options :

94091821269. 1

94091821270. 2

94091821271. 3

94091821272. 4

Question Number : 8 Question Id : 9409185665 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

To enable the concrete to take tensile stresses safely reinforcement is provided in

1. tension zone only
2. compression zone only
3. tension and compression zone both
4. any zone in the structural member

Options :

94091821273. 1

94091821274. 2

94091821275. 3

94091821276. 4

Question Number : 9 Question Id : 9409185666 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Cement is manufactured by

1. Wet process
2. Dry process
3. Both, Wet and Dry processes
4. Neither Wet nor Dry process

Options :

94091821277. 1

94091821278. 2

94091821279. 3

94091821280. 4

Question Number : 10 Question Id : 9409185667 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Fresh concrete is also known as

1. green concrete
2. wet concrete
3. concrete in plastic stage
4. all of these

Options :

94091821281. 1

94091821282. 2

94091821283. 3

94091821284. 4

Question Number : 11 Question Id : 9409185668 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Le-Chatelier test is used for

1. Initial setting time of cement
2. Final setting time of cement
3. Fineness modulus of cement
4. soundness of cement

Options :

94091821285. 1

94091821286. 2

94091821287. 3

94091821288. 4

Question Number : 12 Question Id : 9409185669 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Workability is the property of _____

1. Hardened concrete
2. Fresh concrete
3. Cracked concrete
4. Aged concrete

Options :

94091821289. 1

94091821290. 2

94091821291. 3

94091821292. 4

Question Number : 13 Question Id : 9409185670 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Rate of cooling during manufacturing and fineness of grinding _____ the properties of cement.

1. affect
2. do not affect
3. have no relationship with
4. have a relationship but do not affect

Options :

94091821293. 1

94091821294. 2

94091821295. 3

94091821296. 4

Question Number : 14 Question Id : 9409185671 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In concrete, water is required for

1. hydration of cement
2. workability of concrete
3. curing of concrete
4. all of these

Options :

94091821297. 1

94091821298. 2

94091821299. 3

94091821300. 4

Question Number : 15 Question Id : 9409185672 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

About _____ % water by weight of cement is required for the hydration of cement compounds

1. 5 %
2. 10 %
3. 15 %
4. 23 %

Options :

94091821301. 1
94091821302. 2
94091821303. 3
94091821304. 4

Question Number : 16 Question Id : 9409185673 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Most important compounds responsible for strength of cement are

1. $C_2 S$ and $C_3 A$
2. $C_3 S$ and $C_2 S$
3. $C_3 A$ and $C_4 AF$
4. $C_2 S$ and $C_4 AF$

Options :

94091821305. 1
94091821306. 2
94091821307. 3
94091821308. 4

Question Number : 17 Question Id : 9409185674 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Choose the correct statement(s) about C_2S

1. It hydrates slowly
2. It produces less heat of hydration
3. It produces large heat of hydration
4. Both, hydrates slowly as well as produces less heat of hydration

Options :

94091821309. 1

94091821310. 2

94091821311. 3

94091821312. 4

Question Number : 18 Question Id : 9409185675 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

What is the limitation of Abram's W/C ratio law?

1. Effect of entrapped air on strength of concrete ignored
2. Effect of cement content on strength of concrete ignored
3. Effect of water content on strength of concrete ignored
4. It makes concrete costly on strength concrete ignored

Options :

94091821313. 1

94091821314. 2

94091821315. 3

94091821316. 4

Question Number : 19 Question Id : 9409185676 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which one is more resistant to sulphate attack?

1. C₃ S
2. C₂ S
3. C₃ A
4. C₄ AF

Options :

94091821317. 1

94091821318. 2

94091821319. 3

94091821320. 4

Question Number : 20 Question Id : 9409185677 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Workability of concrete depends on

1. Water content
2. Shape, size & grading of aggregate
3. Use of admixtures
4. All of these

Options :

94091821321. 1

94091821322. 2

94091821323. 3

94091821324. 4

Question Number : 21 Question Id : 9409185678 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The argillaceous materials used in manufacturing cement are

1. Shale and clay
2. Clay and Laterite
3. Laterite and shale
4. Clay, shale and Laterite

Options :

94091821325. 1

94091821326. 2

94091821327. 3

94091821328. 4

Question Number : 22 Question Id : 9409185679 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The clinker after cooling is ground to fine power with addition of _____ % gypsum.

1. 5 - 10 %
2. 2 to 3 %
3. 10 - 15 %
4. 15 - 20 %

Options :

94091821329. 1

94091821330. 2

94091821331. 3

94091821332. 4

Question Number : 23 Question Id : 9409185680 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

For a given water content if quantity of cement is reduced, it will

1. lead to less workable concrete
2. lead to more workable concrete
3. make no change in workability of concrete
4. increase the heat of hydration

Options :

94091821333. 1

94091821334. 2

94091821335. 3

94091821336. 4

Question Number : 24 Question Id : 9409185681 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Colour to cement is provided by

1. Alumina
2. Iron oxide
3. Silica
4. Lime

Options :

94091821337. 1

94091821338. 2

94091821339. 3

94091821340. 4

Question Number : 25 Question Id : 9409185682 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

During manufacturing of cement, which one is responsible for lowering of clinkering temperature?

1. Alumina
2. Lime
3. Silica
4. Alkalies

Options :

94091821341. 1

94091821342. 2

94091821343. 3

94091821344. 4

Question Number : 26 Question Id : 9409185683 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

For given volume of aggregate, with the increase in size of aggregate _____

1. workability of concrete increases
2. workability of concrete decreases
3. workability of concrete remains unchanged
4. workability of concrete becomes zero

Options :

94091821345. 1

94091821346. 2

94091821347. 3

94091821348. 4

Question Number : 27 Question Id : 9409185684 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The degree of grinding of cement is called

1. Grindness
2. Fineness
3. Soundness
4. Roughness

Options :

94091821349. 1

94091821350. 2

94091821351. 3

94091821352. 4

Question Number : 28 Question Id : 9409185685 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

By using rounded shape aggregate in concrete,
there is

1. increase in workability and strength both
2. increase in workability but decrease in strength
3. decrease in workability but increase in strength
4. decrease in workability & strength both

Options :

94091821353. 1

94091821354. 2

94091821355. 3

94091821356. 4

Question Number : 29 Question Id : 9409185686 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which cement is more suitable for marine works?

1. Ordinary Portland cement
2. Rapid Hardening Portland cement
3. Low Heat Portland cement
4. Sulphate Resisting cement

Options :

94091821357. 1

94091821358. 2

94091821359. 3

94091821360. 4

Question Number : 30 Question Id : 9409185687 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which cement is more suitable for repairing the damaged concrete surfaces?

1. Hydrophobic cement
2. Oil well cement
3. Expanding cement
4. Quick setting cement

Options :

94091821361. 1

94091821362. 2

94091821363. 3

94091821364. 4

Question Number : 31 Question Id : 9409185688 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The Slump can be measured only in the case of

1. Shear slump
2. True slump
3. Collapse slump
4. Spike slump

Options :

94091821365. 1

94091821366. 2

94091821367. 3

94091821368. 4

Question Number : 32 Question Id : 9409185689 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In slump test, the metallic mould is in the form of

1. Cylinder
2. Frustum of cone
3. Square
4. Rectangular

Options :

94091821369. 1

94091821370. 2

94091821371. 3

94091821372. 4

Question Number : 33 Question Id : 9409185690 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Increase in volume of a given weight of sand caused by the presence of moisture is termed as

1. bulking of sand
2. wetting of sand
3. reduction of sand
4. sweating of sand

Options :

94091821373. 1

94091821374. 2

94091821375. 3

94091821376. 4

Question Number : 34 Question Id : 9409185691 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Compaction factor test apparatus consists of

1. Two cylinders and a hopper
2. Two hoppers and a cylinder
3. One hopper and a cylinder
4. Three hoppers

Options :

94091821377. 1

94091821378. 2

94091821379. 3

94091821380. 4

Question Number : 35 Question Id : 9409185692 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Separation of ingredients of concrete mix is called

1. Bleeding
2. Segregation
3. Aggregation
4. Adhesion

Options :

94091821381. 1

94091821382. 2

94091821383. 3

94091821384. 4

Question Number : 36 Question Id : 9409185693 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Abrams Law gives relationship of

1. water cement ratio and compressive strength
2. Aggregate content and compressive strength
3. Aggregate content and tensile strength
4. Aggregate size and tensile strength

Options :

94091821385. 1

94091821386. 2

94091821387. 3

94091821388. 4

Question Number : 37 Question Id : 9409185694 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The storing arrangement of cement should be such that

1. cement delivered first can be used first
2. cement delivered in the last can be used first
3. cement delivered first can be used in the last
4. delivery and use of cement has no relationship

Options :

94091821389. 1

94091821390. 2

94091821391. 3

94091821392. 4

Question Number : 38 Question Id : 9409185695 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

With increase in aggregate/cement ratio, strength of concrete

1. increases
2. decreases
3. sometimes increases and sometimes decreases
4. initially increases at fast rate but later decreases slowly

Options :

94091821393. 1

94091821394. 2

94091821395. 3

94091821396. 4

Question Number : 39 Question Id : 9409185696 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

To prevent the possibility of lumping up under pressure height of stack should be restricted to

1. 25 bags
2. 15 bags
3. 35 bags
4. 45 bags

Options :

94091821397. 1

94091821398. 2

94091821399. 3

94091821400. 4

Question Number : 40 Question Id : 9409185697 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

At the large construction site where a large quantity of cement is required, it is preferred to store cement in

1. stacks of cement bags
2. silos
3. buckets
4. large open steel tanks

Options :

94091821401. 1

94091821402. 2

94091821403. 3

94091821404. 4

Question Number : 41 Question Id : 9409185698 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In mix design, quantities of different ingredients are obtained by

1. weight for one cubic meter of concrete
2. volume for one cubic meter of concrete
3. weight for 100 cubic meter of concrete
4. volume for 100 cubic meter of concrete

Options :

94091821405. 1

94091821406. 2

94091821407. 3

94091821408. 4

Question Number : 42 Question Id : 9409185699 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Mix proportion for M20 concrete is

1. 1:1:3
2. 1:1.5:3
3. 1:2:4
4. 1:3:6

Options :

94091821409. 1

94091821410. 2

94091821411. 3

94091821412. 4

Question Number : 43 Question Id : 9409185700 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Characteristic strength is defined as the strength of concrete below which not more than _____ of the test result one expected to fall.

1. 10%
2. 15%
3. 5%
4. 7%

Options :

94091821413. 1

94091821414. 2

94091821415. 3

94091821416. 4

Question Number : 44 Question Id : 9409185701 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Factors governing the choice of mix proportion of concrete are

1. Strength and quality of concrete
2. durability and workability of concrete
3. both of these are correct
4. None of these is correct

Options :

94091821417. 1

94091821418. 2

94091821419. 3

94091821420. 4

Question Number : 45 Question Id : 9409185702 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Tensile strength of concrete is generally taken as _____ of the compressive strength.

1. 20%
2. 10%
3. 30%
4. 25%

Options :

94091821421. 1

94091821422. 2

94091821423. 3

94091821424. 4

Question Number : 46 Question Id : 9409185703 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Mixing of concrete using machine mixer involves the following operations:

- A. Installing the mixer
- B. Mixing of Ingredients
- C. Discharging the mix
- D. Charging of mixer

The correct sequence of operations is ----

1. A, B , C, D
2. A, D, B, C
3. D, A, C, B
4. A, D, C, B

Options :

94091821425. 1

94091821426. 2

94091821427. 3

94091821428. 4

Question Number : 47 Question Id : 9409185704 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Size of a machine mixer is defined by

1. time taken in mixing a batch of concrete
2. number of revolutions of the drum of the mixer
3. weight of the mixer
4. total volume of concrete that can be mixed in a batch

Options :

94091821429. 1

94091821430. 2

94091821431. 3

94091821432. 4

Question Number : 48 Question Id : 9409185705 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Which one a method of curing of concrete?

1. Curing by ultraviolet radiation
2. Electrical curing of concrete
3. Supersonic curing of concrete
4. Curing by sublimation

Options :

94091821433. 1

94091821434. 2

94091821435. 3

94091821436. 4

Question Number : 49 Question Id : 9409185706 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In chemical curing of concrete -----is sprayed over the concrete surface.

1. Sodium Silicate solution
2. Sodium Chloride solution
3. Sodium Sulphate solution
4. Sodium Hydroxide solution

Options :

94091821437. 1

94091821438. 2

94091821439. 3

94091821440. 4

Question Number : 50 Question Id : 9409185707 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Formwork may be stripped from the bottom of beams and arch ribs over 6 m span after

1. 3 days
2. 7 days
3. 14 days
4. 21 days

Options :

94091821441. 1

94091821442. 2

94091821443. 3

94091821444. 4