

National Testing Agency

Question Paper Name :	Pollutants and Water Supply 29th August 2021 Shift 1
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Pollutants and Water Supply

Group Number :	1
Group Id :	603489278
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Show Attended Group? :	No
Edit Attended Group? :	No
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Group Marks :	100
Is this Group for Examiner? :	No

Pollutants and Water Supply -1

Section Id :	603489408
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 :	603489737
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 60348919468 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 2 Wrong Marks : 0

Component(s) of Environment is/ are

1. Atmosphere
2. Hydrosphere
3. Both Atmosphere and Hydrosphere
4. None of these

Options :

- 60348973185. 1
- 60348973186. 2
- 60348973187. 3
- 60348973188. 4

Question Number : 2 Question Id : 60348919469 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 2 Wrong Marks : 0

Ultra-Violet (UV) radiation from the sun is filtered by

1. CO₂
2. NO₂
3. O₃
4. SO₂

Options :

60348973189. 1

60348973190. 2

60348973191. 3

60348973192. 4

Question Number : 3 Question Id : 60348919470 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Minimum particle size that can be removed by spray towers is

1. 10 μ m

2. 2.5 μ m

3. 1.5 μ m

4. 0.5 μ m

Options :

60348973193. 1

60348973194. 2

60348973195. 3

60348973196. 4

Question Number : 4 Question Id : 60348919471 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Assumption(s) is/ are underlying Gaussian plume model

1. Influence of surface obstructions is negligible

2. Plume contents are not reflected from the ground and back to the air

3. Both of the options mentioned

4. None of these

Options :

60348973197. 1

60348973198. 2

60348973199. 3

60348973200. 4

Question Number : 5 Question Id : 60348919472 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In Composting process

1. Organic components of solid waste are chemically decomposed
2. Inorganic components of solid waste are chemically decomposed
3. Organic components of solid waste are biologically decomposed
4. Inorganic components of solid waste are biologically decomposed

Options :

60348973201. 1

60348973202. 2

60348973203. 3

60348973204. 4

Question Number : 6 Question Id : 60348919473 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Leachate is a

1. Non contaminated liquid
2. Contaminated liquid
3. Contaminated gas
4. Non contaminated liquid

Options :

60348973205. 1

60348973206. 2

60348973207. 3

60348973208. 4

Question Number : 7 Question Id : 60348919474 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Minimum Dissolved Oxygen (DO) required to sustain fish life in river is

1. 3.0 mg/l
2. 4.0 mg/l
3. 1.0 mg/l
4. 4. None of these

Options :

60348973209. 1

60348973210. 2

60348973211. 3

60348973212. 4

Question Number : 8 Question Id : 60348919475 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

A 20.0 ml sample of water mixed with dilution water to fill the BOD bottle of 300 ml was found to have an initial DO of 7.0 mg/ l. After 5 days of incubation its DO was 4.5 mg/ l. BOD₅ at 20°C is

1. 37.5 mg/l
2. 10.5 mg/l
3. 0.67 mg/l
4. None of these

Options :

60348973213. 1

60348973214. 2

60348973215. 3

60348973216. 4

Question Number : 9 Question Id : 60348919476 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The Environment Act came in year___

1. 1986
2. 1981
3. 1974
4. None of these

Options :

60348973217. 1

60348973218. 2

60348973219. 3

60348973220. 4

Question Number : 10 Question Id : 60348919477 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

If the conductivity is multiplied by a factor _____, it gives a close approximation of the dissolved solids in mg/l

1. 0.650
2. 0.065
3. 6.500
4. 1.650

Options :

60348973221. 1

60348973222. 2

60348973223. 3

60348973224. 4

Question Number : 11 Question Id : 60348919478 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Permanent hardness is due to presence of

1. Bicarbonates of magnesium
2. Carbonates of calcium
3. Suphates of calcium
4. All of these

Options :

60348973225. 1

60348973226. 2

60348973227. 3

60348973228. 4

**Question Number : 12 Question Id : 60348919479 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Disease due to pathogenic bacteria is

1. Typhoid fever
2. Dysentery
3. Tuberculosis
4. All of these

Options :

60348973229. 1

60348973230. 2

60348973231. 3

60348973232. 4

**Question Number : 13 Question Id : 60348919480 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

The BOD₅ in ppm is given by the relation

1. BOD₅ = Loss of Oxygen /Dilution Factor
2. BOD₅ = Loss of Oxygen x Dilution Factor
3. BOD₅ = Dilution Factor/ Loss of Oxygen
4. None of these

Options :

60348973233. 1

60348973234. 2

60348973235. 3

60348973236. 4

Question Number : 14 Question Id : 60348919481 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

A single catch sample collected from the sampling spot at any instant to determine the character of the sample at that particular instant is known as

1. Grab sample
2. Composite sample
3. Integrated sample
4. None of these

Options :

60348973237. 1

60348973238. 2

60348973239. 3

60348973240. 4

Question Number : 15 Question Id : 60348919482 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The adherence of dissolved, colloidal or finally divided solids on the surface of solid bodies with which they are brought into contact

1. Absorption
2. Adsorption
3. Activation
4. None of these

Options :

60348973241. 1

60348973242. 2

60348973243. 3

60348973244. 4

**Question Number : 16 Question Id : 60348919483 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Factors, which affect per capita requirement of water

1. Climatic condition
2. Status and habits of residents
3. Mode of water supply
4. All of these

Options :

60348973245. 1

60348973246. 2

60348973247. 3

60348973248. 4

**Question Number : 17 Question Id : 60348919484 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

The maximum daily consumption is taken as

1. 250% of the average
2. 180% of the average
3. 150% of the average
4. None of these

Options :

60348973249. 1

60348973250. 2

60348973251. 3

60348973252. 4

**Question Number : 18 Question Id : 60348919485 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Withdrawal of water from a reservoir is

1. Draft
2. Drawdown
3. Intake
4. None of these

Options :

60348973253. 1

60348973254. 2

60348973255. 3

60348973256. 4

**Question Number : 19 Question Id : 60348919486 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

If the vegetation is in the sufficient density as to cause stagnation in the flow of the water

1. Water may be expected to be quite clear
2. Colored water may result
3. Water carrying high turbidity
4. None of these

Options :

60348973257. 1

60348973258. 2

60348973259. 3

60348973260. 4

**Question Number : 20 Question Id : 60348919487 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Odour in surface water supplies are due to presence of volatile oils present as minute droplets

1. Zooplankton
2. Phytoplankton
3. Both of these
4. None of these

Options :

60348973261. 1

60348973262. 2

60348973263. 3

60348973264. 4

**Question Number : 21 Question Id : 60348919488 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

When a small quantity of water is to be drawn

1. Intake well
2. Pipe intakes
3. Weir intakes
4. Floating pontoon intake

Options :

60348973265. 1

60348973266. 2

60348973267. 3

60348973268. 4

**Question Number : 22 Question Id : 60348919489 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

The yield has great fluctuations

1. In case of first class springs
2. In case of second class springs
3. In case of third class springs
4. None of these

Options :

60348973269. 1

60348973270. 2

60348973271. 3

60348973272. 4

**Question Number : 23 Question Id : 60348919490 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

In Unconfined Aquifer

1. Water table is the upper surface of the zone of saturation
2. When a well is drilled or dug into a homogeneous aquifer, the water table initially is horizontal in the well
3. Both of the options mentioned
4. None of these

Options :

60348973273. 1

60348973274. 2

60348973275. 3

60348973276. 4

Question Number : 24 Question Id : 60348919491 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Jack well is

1. A structure constructed at surface water source to facilitate withdrawal of water
2. A place or location where the water table intersects surface of the ground
3. A components of an intake, which is an enclosed concrete or masonry structure where control valves pump is placed to withdraw water through penstocks from water source
4. None of these

Options :

60348973277. 1

60348973278. 2

60348973279. 3

60348973280. 4

Question Number : 25 Question Id : 60348919492 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Physical Treatment Processes of water is/ are

1. Screening and straining
2. Adsorption
3. Fixed film systems
4. All of these

Options :

60348973281. 1

60348973282. 2

60348973283. 3

60348973284. 4

**Question Number : 26 Question Id : 60348919493 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Biological Treatment Processes of water is/ are

1. Ion Exchange
2. Filtration
3. Oxidation pond
4. Gas Transfer

Options :

60348973285. 1

60348973286. 2

60348973287. 3

60348973288. 4

**Question Number : 27 Question Id : 60348919494 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Grit(s) is/ are removed in

1. Primary settling basins
2. Secondary settling basins
3. Grit chamber
4. None of these

Options :

60348973289. 1

60348973290. 2

60348973291. 3

60348973292. 4

Question Number : 28 Question Id : 60348919495 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Surface loading is equals to

1. Q/BL
2. BL/Q
3. BLQ
4. None of these

Options :

60348973293. 1

60348973294. 2

60348973295. 3

60348973296. 4

Question Number : 29 Question Id : 60348919496 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Surface area required in an ideal settling tank to ensure removal of all discrete particles with a settling velocity of 0.0028 m/ sec from a flow of 550 m³/ h

1. A = 544.600 m²
2. A = 54.460 m²
3. A = 5.446 m²
4. None of these

Options :

60348973297. 1

60348973298. 2

60348973299. 3

60348973300. 4

Question Number : 30 Question Id : 60348919497 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Impurities present in water in the form of solid are classified based on their size as

1. Coarse solids
2. Colloidal solids
3. Fine solids
4. All of these

Options :

60348973301. 1

60348973302. 2

60348973303. 3

60348973304. 4

Question Number : 31 Question Id : 60348919498 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Water is coagulated with low doses of coagulants in case of

1. High Turbidity - Low Alkalinity of Water
2. High Turbidity - High Alkalinity of Water
3. Low Turbidity - High Alkalinity of Water
4. Low Turbidity - Low Alkalinity Water

Options :

60348973305. 1

60348973306. 2

60348973307. 3

60348973308. 4

Question Number : 32 Question Id : 60348919499 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

In filtration, purification of water takes place under following process

1. Mechanical Straining
2. Flocculation and Sedimentation
3. Biological Metabolism
4. All of these

Options :

60348973309. 1

60348973310. 2

60348973311. 3

60348973312. 4

Question Number : 33 Question Id : 60348919500 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Disease causing micro-organism are reduced to such low levels that no infection or disease results when the water is used for domestic purposes including drinking water is known as

1. Sterilization
2. Disinfection
3. Both Sterilization and Disinfection
4. None of these

Options :

60348973313. 1

60348973314. 2

60348973315. 3

60348973316. 4

Question Number : 34 Question Id : 60348919501 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Primary action of chlorination is destruction/ inactivation of bacteria. Secondary action(s) include(s)

1. Oxidation of iron
2. Destruction of some taste
3. Control of algae
4. All of a these

Options :

60348973317. 1

60348973318. 2

60348973319. 3

60348973320. 4

Question Number : 35 Question Id : 60348919502 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

The point at which this free chlorine begins to form is called

1. Breakpoint chlorination
2. Super chlorination
3. De chlorination
4. Residual chlorine

Options :

60348973321. 1

60348973322. 2

60348973323. 3

60348973324. 4

Question Number : 36 Question Id : 60348919503 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Calculate the dosage of pure sodium hydroxide (NaOH) required for neutralizing effluent with an acidity equivalent to 7 mg/l of sulphuric acid, H₂SO₄.

1. 571.00 mg/l NaOH
2. 57.10 mg/l NaOH
3. 5.71 mg/l NaOH
4. 0.57 mg/l NaOH

Options :

60348973325. 1

60348973326. 2

60348973327. 3

60348973328. 4

Question Number : 37 Question Id : 60348919504 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Reverse osmosis is used for

1. Separation of dissolved salts
2. Separation of suspended salts
3. Both of the options mentioned
4. None of these

Options :

60348973329. 1

60348973330. 2

60348973331. 3

60348973332. 4

**Question Number : 38 Question Id : 60348919505 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Contingency storage is required for

1. In case of population growth
2. In case of fire
3. In case of repair of pipe bursts on mains
4. None of these

Options :

60348973333. 1

60348973334. 2

60348973335. 3

60348973336. 4

**Question Number : 39 Question Id : 60348919506 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Sump is

1. A graph of cumulative run off versus time
2. A depression that receives water or any liquid
3. Small elevated service tanks of diameter around 10 to 15 metres
4. None of these

Options :

60348973337. 1

60348973338. 2

60348973339. 3

60348973340. 4

**Question Number : 40 Question Id : 60348919507 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Pumping of water from purification plant or from source to the distributing system is

1. Low lift service
2. High lift service
3. Deep well pump
4. Booster pump

Options :

60348973341. 1

60348973342. 2

60348973343. 3

60348973344. 4

**Question Number : 41 Question Id : 60348919508 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Mechanical efficiency of a centrifugal pump is

1. Manometric head/ Head imparted by impeller to water
2. Power at the impeller/ Power at the shaft
3. All of these
4. None of these

Options :

60348973345. 1

60348973346. 2

60348973347. 3

60348973348. 4

Question Number : 42 Question Id : 60348919509 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Slip of a pump is given by

1. Q_{th} / Q_{act}
2. Q_{act} / Q_{th}
3. $Q_{th} - Q_{act}$
4. $Q_{th} \times Q_{act}$

Options :

60348973349. 1

60348973350. 2

60348973351. 3

60348973352. 4

Question Number : 43 Question Id : 60348919510 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

A water passage of rectangular cross section is to carry 12 cumecs of water at a velocity of 2.5 m/sec. For most economical section, d and b will be respectively

1. 3.10 m and 3.10 m
2. 1.55 m and 6.20 m
3. 1.55 m and 3.10 m
4. 1.55 m and 1.55 m

Options :

60348973353. 1

60348973354. 2

60348973355. 3

60348973356. 4

Question Number : 44 Question Id : 60348919511 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

When discharge through pipes in series

1. Total head loss $h_f =$ Loss of head in pipe1 + Loss of head in pipe2 +...
2. $Q = Q_1 = Q_2 = \dots\dots$
3. Both of the optiones mentioned
4. None of these

Options :

60348973357. 1

60348973358. 2

60348973359. 3

60348973360. 4

Question Number : 45 Question Id : 60348919512 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Working Pressure is_____

1. The head available at any particular point in the distribution system
2. Maximum pressure, which the pipe can withstand without any leakage when tested for hydrostatic pressure in accordance with the standard methods of testing
3. Actual maximum pressure to which the pipe will be subjected during its operation
4. Maximum pressure for which the pipe has been designed

Options :

60348973361. 1

60348973362. 2

60348973363. 3

60348973364. 4

Question Number : 46 Question Id : 60348919513 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Large diameter pipes taking water from source to distribution reservoirs and from distribution reservoirs to the feeder main are_____

1. Trunk Mains
2. The Principal Feeder Mains
3. The Network Mains
4. None of these

Options :

60348973365. 1

60348973366. 2

60348973367. 3

60348973368. 4

Question Number : 47 Question Id : 60348919514 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

A small curved flexible pipe for making connection between ferrule and service pipe

1. Bib cock
2. Goose Neck
3. Stop Cock
4. None of these

Options :

60348973369. 1

60348973370. 2

60348973371. 3

60348973372. 4

Question Number : 48 Question Id : 60348919515 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Rate of flow in Flushing cisterns_____

1. 4.5 litre/ minute
2. 9.0 litre/ minute
3. 13.5 litre /minute
4. None of these

Options :

60348973373. 1

60348973374. 2

60348973375. 3

60348973376. 4

Question Number : 49 Question Id : 60348919516 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 2 Wrong Marks : 0

Average healthy adult body is

1. 45% to 75% water
2. 35% to 45% water
3. 75% to 95% water
4. None of these

Options :

60348973377. 1

60348973378. 2

60348973379. 3

60348973380. 4

**Question Number : 50 Question Id : 60348919517 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 2 Wrong Marks : 0

Water borne disease from virus_____

1. Hepatitis A
2. Poliomyelitis
3. Both of these
4. None of these

Options :

60348973381. 1

60348973382. 2

60348973383. 3

60348973384. 4