

Exam Name

FINAL ANSWER KEY

Paper Name: Scientist B (Environmental Engineering)

Paper Code: SB - Env

Q. No.	Key	Q. No.	Key	Q. No.	Key	Q. No.	Key	Q. No.	Key	Q. No.	Key
01	B	12	A	23	B	34	C	45	B	56	B
02	B	13	A	24	D	35	A	46	B	57	C
03	C	14	A	25	B	36	B	47	B	58	B
04	B	15	B	26	C	37	D	48	D	59	D
05	A, C	16	A	27	A	38	C	49	C	60	A
06	B	17	A	28	B	39	A	50	A	61	D
07	A	18	B	29	D	40	D	51	A	62	A
08	B	19	D	30	D	41	A	52	B	63	C
09	B	20	C	31	C	42	D	53	B	64	B
10	C	21	B	32	D	43	B	54	A, D	65	D
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Exam Name

Q. No.	Key	Q. No.	Key	Q. No.	Key	Q. No.	Key	Q. No.	Key	Q. No.	Key
67	D	78	A	89	D	100	C	111	D		
68	B	79	C	90	B	101	C	112	A		
69	D	80	D	91	A	102	A	113	B		
70	C	81	A	92	A	103	A	114	C		
71	A	82	B	93	A	104	B	115	C		
72	D	83	C	94	D	105	C	116	B		
73	D	84	B	95	C	106	B	117	A		
74	A	85	B	96	B	107	A	118	D		
75	C	86	B	97	B	108	A	119	D		
76	B	87	C	98	C	109	C	120	B		
77	D	88	A	99	A	110	B, C				

Question Paper

Question Paper Name :	Scientist B Environmental Engineering
Subject Name :	Scientist B Environmental Engineering
Creation Date :	2021-09-08 13:20:28
Duration :	120
Total Marks :	120
Display Marks:	Yes
Calculator :	Scientific
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console? (SA type of questions will be always auto saved) :	No

Scientist B Environmental Engineering

Group Number :	1
Group Id :	267236130

Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	120
Is this Group for Examiner? :	No

Scientist B Environmental Engineering

Section Id :	267236258
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	120
Number of Questions to be attempted :	120
Section Marks :	120
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	267236376
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 26723610101 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Noise pollution has been inserted as pollution in the Air Act in:

(A) 1981

(B) 1987

(C) 1986

(D) 1974

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 2 Question Id : 26723610102 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The Water (Prevention and Control of Pollution) Act was enacted in the year:

(A) 1981

(B) 1974

(C) 1986

(D) 2000

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✖ D

Question Number : 3 Question Id : 26723610103 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

What is the most abundant greenhouse gas in the atmosphere?

- (A) Methane
- (B) Nitrogen dioxide
- (C) Water vapor
- (D) Carbon dioxide

Options :

- 1. ✔ A
- 2. ✖ B
- 3. ✖ C
- 4. ✖ D

Question Number : 4 Question Id : 26723610104 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following is responsible for reducing global CFC production by half?

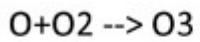
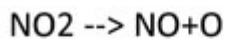
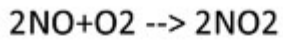
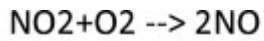
- (A) Copenhagen Protocol
- (B) Montreal Protocol
- (C) Kyoto Protocol
- (D) Convention on Long-Range Transboundary Air Pollution

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 5 Question Id : 26723610105 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25



The above reactions describe the chemical process that forms:

- (A) Photochemical smog
- (B) Acid precipitation
- (C) Ozone
- (D) Peroxyacetyl nitrate

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 6 Question Id : 26723610106 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

5th June is observed as

- (A) World forest day
- (B) World environment day
- (C) World wildlife day
- (D) World population day

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 7 Question Id : 26723610107 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following types of electricity generation produces the least amount of greenhouse-gas emissions from cradle to grave?

- (A) Nuclear
- (B) Natural gas
- (C) Biomass
- (D) Oil

Options :

- 1. ✓ A
- 2. ✗ B

3. ✘ C

4. ✘ D

Question Number : 8 Question Id : 26723610108 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In which of the following ecosystems do tree roots serve as important havens for biodiversity?

(A) Coral reefs

(B) Mangrove forests

(C) Estuaries

(D) Freshwater wetlands

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 9 Question Id : 26723610109 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The total salary of A, B, C is Rs. 444. If they spend 80%, 85%, 75% of their salaries, respectively, their savings are as 7 : 6 : 9. The salary of B is

(A) Rs. 140

(B) Rs. 160

(C) Rs. 144

(D) Rs. 156

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 10 Question Id : 26723610110 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A sum of money invested at compound interest amounts to Rs. 650 at the end of first year and Rs. 676 at the end of second year. The sum of money is:

(A) Rs. 600

(B) Rs. 540

(C) Rs. 625

(D) Rs. 560

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 11 Question Id : 26723610111 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

What is the height of a solid cylinder of radius 5 cm and total surface area is 660 sqcm?

(A) 10 cm

(B) 12 cm

(C) 15 cm

(D) 16 cm

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 12 Question Id : 26723610112 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In a test paper there are total 10 questions. In how many different ways can you choose 6 questions to answer?

- (A) 210
- (B) 540
- (C) 336
- (D) None of these

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 13 Question Id : 26723610113 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A box contains 5 defective and 15 non-defective bulbs. Two bulbs are chosen at random. Find the probability that both the bulbs are non-defective.

- (A) $21/38$
- (B) $3/20$
- (C) $5/19$
- (D) None of these

Options :

- 1. ✓ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 14 Question Id : 26723610114 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The average rainfall in the months of January and February is 6 cm and in the months of March to June is 5 cm and July to October is 10 cm and, in the months of November and December, it is 6 cm. The average rainfall for the whole year is:

(A) 7

(B) 5.5

(C) 7.5

(D) None of these

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 15 Question Id : 26723610115 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The average age of all the 100 employees in an office is 29 years, where $\frac{2}{5}$ employees are ladies and the ratio of average age of men to women is 5 : 7. The average age of female employees is:

(A) 18 years

(B) 35 years

(C) 25 years

(D) 27 years

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 16 Question Id : 26723610116 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The Narendra Modi Stadium was previously known as

(A) Motera Stadium

(B) Ahmed Patel Stadium

(C) Ahmedabad Stadium

(D) Morar ji Stadium

Options :

1. ✓ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 17 Question Id : 26723610117 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Carbon dioxide constitutes about _____ percentage of the air?

(A) 0.03

(B) 0.3

(C) 3

(D) 30

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 18 Question Id : 26723610118 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

When India got independence, the Prime Minister of England was:

- (A) Winston Churchill
- (B) Clement R. Atlee
- (C) Neville Chamberlain
- (D) Harold Macmillan

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 19 Question Id : 26723610119 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Gandhiji's Champaran Movement was for:

- (A) The security of rights of Harijans
- (B) Maintaining the unity of Hindu Society
- (C) Civil Disobedience Movement
- (D) Solving the problem of the indigo workers

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C

4. ✖ D

Question Number : 20 Question Id : 26723610120 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

India liberated Goa from Portuguese in

(A) 1950

(B) 1965

(C) 1961

(D) 1947

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 21 Question Id : 26723610121 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Who among the following won the highest number of National film awards in acting?

(A) Amitabh Bachhan

(B) Shabana Azmi

(C) Satyajit Ray

(D) Kamal Haasan

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 22 Question Id : 26723610122 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which among the following is the largest Hindu temple in the world?

- (A) Angkorwat (Cambodia)
- (B) Akshardham (Delhi)
- (C) Belur Math (Howrah)
- (D) Brihadeshwar (Jhanjavar)

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 23 Question Id : 26723610123 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Tsunami is the result of?

(A) Shrining of Earth's crust

(B) Submarine Earthquakes

(C) Cyclones

(D) Tides

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 24 Question Id : 26723610124 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The instrument used for recording earthquake wavers is:

(A) Barograph

(B) Hydrograph

(C) Pantograph

(D) Seismograph

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✖ D

Question Number : 25 Question Id : 26723610125 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The Tropic of Cancer does not pass through:

- (A) Gujarat
- (B) Odisha
- (C) Tripura
- (D) West Bengal

Options :

- 1. ✔ A
- 2. ✖ B
- 3. ✖ C
- 4. ✖ D

Question Number : 26 Question Id : 26723610126 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Water stored in a dam possesses:

- (A) No energy
- (B) Kinetic energy
- (C) Potential energy
- (D) Electrical energy

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 27 Question Id : 26723610127 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following is best conductor of electricity?

- (A) Silver
- (B) Mercury
- (C) Platinum
- (D) Copper

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 28 Question Id : 26723610128 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

-40° Fahrenheit is equal to:

(A) -20° centigrade

(B) -40° centigrade

(C) -10° centigrade

(D) -80° centigrade

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 29 Question Id : 26723610129 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A family consists of six members. There is at least one married couple in the family.

- I. Venkat is not the husband of Savita.
- II. Charan is the brother of Jyothi.
- III. Jyothi is not the wife of Ravi.
- IV. Sekhar is the grandfather of Charan.
- V. Jyothi is Savita's daughter.
- VI. Savita's husband is living with her.

If Sekhar has his two children living with him, which of the following pairs can be siblings?

- (A) Ravi & Venkat
- (B) Sekhar & Ravi
- (C) Venkat & Savita
- (D) Either A or C

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 30 Question Id : 26723610130 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Seven villages A, B, C, D, E, F and G are situated as follows:

E is 2km to the west of B.

F is 2km to the north of A.

C is 1km to the west of A.

D is 2km to the south of G.

G is 2km to the east of C.

D is exactly in the middle of B and E.

A is in the middle of:

(A) E and C

(B) F and E

(C) F and G

(D) G and C

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 31 Question Id : 26723610131 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The statement given below is followed by two arguments numbered I and II. You have to decide which of the following arguments a “strong” argument is and which a “weak” argument is.

Statement: Should the Government introduce Gross Happiness Index on the lines of that introduced in Bhutan?

Arguments: I. Yes. It will greatly help India in becoming a prosperous nation.
II. No. Bhutan has not gone anywhere even after introducing GHI over four decades ago.

(A) If only argument I is strong

(B) If only argument II is strong

(C) If neither I nor II is strong

(D) If both I and II are strong

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 32 Question Id : 26723610132 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Choose the most appropriate answer

Statement (1): Due to deforestation, the chances of flooding have increased in city X.

Statement (2): City X suffered from disrupted water flow.

- (A) I is the cause and II is the effect
- (B) II is the cause and I is the effect
- (C) Both I and II are independent causes
- (D) Both I and II are effects of common causes

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 33 Question Id : 26723610133 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In the following questions, the first and the last parts of the sentence are numbered 1 and 6. The rest of the sentence is split into four parts and named P, Q, R, and S. These four parts are not given in their proper order. Read the sentence and find out which of the four combinations is correct. Then find the correct answer.

1.A dictionary

P.arranged words

Q.about which information

R.containing alphabetically

S.is a book

6.is given.

(A) RPQS

(B) RPSQ

(C) SRPQ

(D) SPRQ

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 34 Question Id : 26723610134 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Choose the option that exhibits the same analogy.

Artist : Canvas ::

- (A) Driver : Car
- (B) Pedestrian : Road
- (C) Composer : Symphony
- (D) Surgeon : Operation

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 35 Question Id : 26723610135 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Choose the alternative which best expresses the meaning of the idiom/.phrase printed in bold type.

To hold somebody to ransom

- (A) To keep captive and demand concession
- (B) To humiliate somebody
- (C) To offer bribe
- (D) To blackmail and extract money

Options :

- 1. ✓ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 36 Question Id : 26723610136 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In following questions, groups of words are given. In each group, one word is correctly spelt. Find the correctly spelt word.

(A) Asassin

(B) Assassin

(C) Assasin

(D) Assassen

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 37 Question Id : 26723610137 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Consider the following properties:

1. Temperature
2. Viscosity
3. Specific entropy
4. Thermal conductivity

Which of the above properties of a system is/are intensive?

- (A) 1 only
- (B) 2 and 3 only
- (C) 2,3 and 4 only
- (D) 1, 2, 3 and 4

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 38 Question Id : 26723610138 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

For air pollution control, Gravitational settler are not used to remove

- (A) particles of size more than 50 micron
- (B) particles of size more than 100 micron
- (C) particles of size less than 50 micron
- (D) All of the above

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 39 Question Id : 26723610139 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following is/are the co-current type of scrubber

(A) Venturi scrubber

(B) Cyclonic scrubber

(C) Packed bed tower with arrangement of trickling flow

(D) All of the above

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 40 Question Id : 26723610140 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A new temperature scale in degrees N is to be defined. The boiling and freezing points of water on this scale are 400°N and 100°N respectively. What will be the reading on new scale corresponding to 60°C ?

(A) 120°N

(B) 180°N

(C) 220°N

(D) 280°N

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 41 Question Id : 26723610141 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Rainfall of 20 mm/h intensity occurred over a watershed of 100 ha area for a duration of 6 h . Measured direct runoff volume in the stream draining the watershed was found to be $30,000\text{ m}^3$. The precipitation not available to runoff in this case is

(A) 9 cm

(B) 3 cm

(C) 17.5 mm

(D) 5 mm

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 42 Question Id : 26723610142 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

An isohyet is a line joining points having

- (A) Equal evaporation value
- (B) Equal barometric pressure
- (C) Equal height above the MSL
- (D) Equal rainfall depth in a given duration

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 43 Question Id : 26723610143 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The rainfall on five successive days on a catchment was 2, 6, 9, 5 and 3 cm. If the ψ -index for the storm can be assumed to be 3 cm/day, the total direct runoff from the catchment is

(A) 20 cm

(B) 11 cm

(C) 10 cm

(D) 22 cm

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 44 Question Id : 26723610144 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A hydrograph is a plot of

(A) Rainfall intensity against time

(B) Stream discharge against time

(C) Cumulative rainfall against time

(D) Cumulative runoff against time

Options :

1. ✓ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 45 Question Id : 26723610145 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The basic assumptions of the unit-hydrograph theory are

(A) Peak discharge

(B) Rainfall duration

(C) Direct runoff

(D) The time base of direct runoff

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 46 Question Id : 26723610146 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A catchment consists of 30% area with runoff coefficient of 0.4 with remaining 70% area with runoff coefficient of 0.60. The equivalent runoff coefficient of the catchment will be

(A) 0.48

(B) 0.54

(C) 0.63

(D) 0.76

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 47 Question Id : 26723610147 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A flood wave with a known inflow hydrograph is routed through a large uncontrolled reservoir. The outflow hydrograph will have

(A) Attenuated peak with reduced time base

(B) Attenuated peak with increase time base

(C) Increased peak with increased time base

(D) Increased peak with reduced time base

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 48 Question Id : 26723610148 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The van der Waals equation:

1. The mass of each molecule of the gas
2. The volume of each molecule of the gas
3. The attractive forces between molecules of the gas.

(A) 1 and 3 only

(B) 2 and 3 only

(C) 1 and 2 only

(D) 1, 2 and 3 only

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 49 Question Id : 26723610149 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Water is considered unfit for drinking if total hardness is more than 0.004 CaCO₃ equivalents per 1 litre. A 100ml sample is tested for total hardness by Complexometric Titration method. 30ml of 0.02M EDTA is used to achieve end point. How much distilled water must be added per 1 litre of sample to make it fit for consumption?

(A) 0.33 litres

(B) 0.5 litres

(C) 2 litres

(D) Already fit

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 50 Question Id : 26723610150 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

If air quality standard for Carbon monoxide is 9.0 ppmV, the percentage as in mg/m³ at 1 atm at 25°C is

(A) 10.3 mg/m³

(B) 15.2 mg/m³

(C) 20.0 mg/m³

(D) 5.6 mg/m³

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 51 Question Id : 26723610151 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

49. Match list-1 with list-2 and choose the correct answer from code given bellow

List-1 (Air Pollutant)

- (a) Carbon monoxide
- (b) Nitrogen Oxide
- (c) Sulphur dioxide with VOCs
- (d) Ozone Plant

List -2 (Sources/ Activity)

- 1. Coal burning
- 2. Cigarette smoking
- 3. Chemical reaction
- 4. Power and industrial

Codes:

- (A) (a) (b) (c) (d)
2 4 1 3
- (B) (a) (b) (c) (d)
1 2 3 4
- (C) (a) (b) (c) (d)
3 1 4 2
- (D) (a) (b) (c) (d)
4 3 2 1

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 52 Question Id : 26723610152 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

What is Ecomark?

- (A) Level given to recycled products
- (B) Level given to an environment friendly product
- (C) Land mark indicating boundaries of biopark
- (D) Level given to non-recycled products

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 53 Question Id : 26723610153 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A Student was performing a test for dissolved oxygen using Iodometric Titration. However, he forgot to add sodium azide and proceeded to observe end point and wrongly stated the amount of dissolved oxygen in water to be 10 ppm. While performing the experiment again on a 100ml water sample, 4ml of N/40 standard hypo solution was used to observe end point. By how much was the student off when he first conducted the experiment?

(A) 0.5 mM/L

(B) 2 mg/L

(C) 8 ppm

(D) 6 g/m³

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 54 Question Id : 26723610154 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The Environmental lapse rate during day time is governed by

- (i) Wind speed (ii) Sunlight
(iii) Topographical Feature (iv) Cloud cover

The correct answer is

- (A) (i) and (ii) only

(B) (ii) and (iii) only

(C) (i) and (iv) only

(D) (i) and (ii) only

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 55 Question Id : 26723610155 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Sequence of a typical sewage treatment plant operation processes will be

- (A) Aeration > Flocculation > Sedimentation > Recarbonation > Filtration > Disinfection

(B) Aeration > Sedimentation > Flocculation > Filtration > Recarbonation > Disinfection

(C) Flocculation > Aeration > Recarbonation > Sedimentation > Filtration > Disinfection

(D) Sedimentation > Flocculation > Aeration > Filtration > Recarbonation > Disinfection

Options :

1. ✓ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 56 Question Id : 26723610156 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

5 days standard BOD is approximately x% of total BOD were x is about

(A) 58 %

(B) 68%

(C) 78%

(D) 88%

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 57 Question Id : 26723610157 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the pairs of terms used in groundwater hydrology are not synonymous?

- (A) Permeability and hydraulic conductivity
- (B) Storage coefficient and storativity
- (C) Actual velocity of flow and discharge velocity
- (D) Water table aquifer and unconfined aquifer

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 58 Question Id : 26723610158 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Match List I and List II and select the correct answer:

List I		List II	
A	Reynolds number	1	Film coefficient, pipe diameter, thermal conductivity
B	Prandtl number	2	Flow velocity, acoustic velocity
C	Nusselt number	3	Heat capacity, dynamic viscosity, thermal conductivity
D	Mach number	4	Flow velocity, pipe diameter, kinematic viscosity

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

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

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

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

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 59 Question Id : 26723610159 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following is not a waterborne disease?

- (A) Typhoid
- (B) Cholera
- (C) Infectious hepatitis
- (D) Filariasis

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 60 Question Id : 26723610160 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A stream with a flow of $0.2 \text{ m}^3/\text{sec}$ and a chloride concentration of 50 mg/L receives a discharge of mine drainage water with a flow of $0.05 \text{ m}^3/\text{sec}$ and chloride concentration of 1500 mg/L . The downstream concentration of chloride is:

- (A) 340 mg/L
- (B) 180 mg/L
- (C) 314 mg/L
- (D) 95 mg/L

Options :

- 1. ✓ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 61 Question Id : 26723610161 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Bernouli equation is applicable between any two points

(A) in any rotational flow of an incompressible fluid

(B) in any type of ir-rotational flow of fluid

(C) in steady rotational flow of an incompressible

(D) in steady, irrotational flow of an incompressible fluid

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 62 Question Id : 26723610162 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Assume the dilution factor p for an unseeded mixture of waste and water is 0.03. The DO of the mixture is initially 9.0 mg/L and after 5 days, it has dropped to 3.0 mg/L. The reaction rate constant 'K' has been found to be 0.22/day. Find the value of BOD_5 .

(A) 200 mg/L

(B) 180 mg/L

(C) 270 mg/L

(D) 110 mg/L

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 63 Question Id : 26723610163 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A wastewater treatment plant treats 50,000 m³ wastewater generated per day. For an average flow rate of 25 m³/day/m², what should be the diameter of the circular primary settling tank?

(A) 100.8 m

(B) 125.2 m

(C) 50.4 m

(D) 80.7 m

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 64 Question Id : 26723610164 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Term of reference is fixed at which stage of EIA processes?

- (A) Screening stage
- (B) Scoping stage
- (C) Detailed EIA stage
- (D) Project appraisal

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 65 Question Id : 26723610165 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The water for domestic consumption should have a pH between 6.5 to 8.5. Given a 1 litre sample of water with pH 6 obtained from a natural Himalayan spring, neutral water is added to it to make it fit for consumption. What amount of neutral water is required to make the sample fit?

(A) Already fit

(B) 0.5 litre

(C) 1 litre

(D) 10 litres

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 66 Question Id : 26723610166 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In a pipe network

(A) the algebraic sum of discharges around each elementary circuit must be zero

(B) the head at each node must be the same

(C) the algebraic sum of the piezometric head drops around each elementary circuit is zero.

(D) the piezometric head loss in each line of a circuit is the same

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 67 Question Id : 26723610167 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Match List I with List II related to operation of SI engines and select the correct answer using the codes below:

List I		List II	
Operating mode		Air fuel ratio	
A	Idling	1	12.5
B	Cold starting	2	9.0
C	Crushing	3	16.0
D	Maximum power	4	22.0
		5	3.0

- (A) A-2, B-4, C-5, D-1
- (B) A-1, B-3, C-4, D-2
- (C) A-5, B-2, C-1, D-3
- (D) A-2, B-5, C-3, D-1

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 68 Question Id : 26723610168 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The combustion analysis carried out by the Orsat Apparatus renders which of the following?

- (A) the % composition by weight on the dry basis
- (B) the % composition by volume on the dry basis
- (C) the % composition by weight on the wet basis
- (D) none of the above

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 69 Question Id : 26723610169 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

For a hydraulic efficient rectangular channel of bed width 4.0 m, the depth of flow is

- (A) 4.0 m
- (B) 8.0 m
- (C) 1.0 m
- (D) 2.0 m

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 70 Question Id : 26723610170 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

If two pumps identical in all respects and each capable of delivering a discharge Q against a head H are connected in series, the resulting discharge is

- (A) $2Q$ against a head $2H$
- (B) $2Q$ against a head H
- (C) Q against a head $2H$
- (D) \sqrt{Q} against a head $\sqrt{2H}$

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 71 Question Id : 26723610171 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

When subjected to shear force, a fluid

- (A) deforms continuously no matter how small the shear stress may be
- (B) deforms continuously only for large shear forces
- (C) undergoes static deformation
- (D) deforms continuously only for small shear stresses

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 72 Question Id : 26723610172 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

At critical depth,

- (A) the discharge is minimum for a given specific energy
- (B) the discharge is maximum for a given specific force
- (C) the discharge is minimum for a given specific force
- (D) The discharge is maximum for a given specific energy

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C

4. ✖ D

Question Number : 73 Question Id : 26723610173 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Hazardous wastes pose present or potential risks to human health or living organisms, due to the fact that they:

(A) are non-degradable or persistent in nature

(B) can be biologically magnified

(C) are highly toxic

(D) All of the above

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 74 Question Id : 26723610174 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Statement I :Processing of hazardous waste is done for purposes of recovering useful materials and preparing the wastes for disposal.

Statement II: Processing can only be accomplished on-site and not be done off-site.

(A) only Statement I is correct

(B) Only statement II is correct

(C) Statement I & II are correct

(D) None is correct

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 75 Question Id : 26723610175 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Materials like sodium chloride (NaCl), zinc (Zn) and lead (Pb), when incinerated results in

- (A) refractory spalling
- (B) fouling of the heat-exchanger surface
- (C) Both above
- (D) None of the above

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 76 Question Id : 26723610176 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following statement(s) is/are correct:

- (i) maximum hourly consumption of the maximum day is called peak demand
- (ii) the peak demand depends on the pressure in the distribution system
- (iii) peak factor tends to reduce with the increasing population

- (A) only (i)
- (B) both (i) and (iii)
- (C) both (ii) and (iii)
- (D) all of the above

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 77 Question Id : 26723610177 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The distribution system in water supplies, is designed on the basis of

- (A) average daily demand
- (B) peak hourly demand
- (C) coincident draft
- (D) greater of B and C

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 78 Question Id : 26723610178 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Ground water is generally free from

- (A) suspended impurities
- (B) dissolved impurities
- (C) metal ions
- (D) none of the above

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 79 Question Id : 26723610179 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A ranney well, largely used for tapping ground water for public supplies, receives ground water from

- (A) its bottom
- (B) its vertical permeable sides
- (C) radial horizontal collectors
- (D) none of these

Options :

- 1. ✓ A
- 2. ✗ B

3. ✖ C

4. ✖ D

Question Number : 80 Question Id : 26723610180 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Turbidity of water is measured as

- (i) NTU
- (ii) JTU
- (iii) FTU

(A) only (i)

(B) only (ii)

(C) (i) and (ii)

(D) all the three

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 81 Question Id : 26723610181 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

While designing sewers, the flow velocity at full design depth, is generally kept at about

- (A) 1.0 m/sec
- (B) 0.5 m/sec
- (C) 1.5 m/sec
- (D) none of these

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 82 Question Id : 26723610182 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Eutrophication of water bodies is caused by

- (i) Excessive discharge of chlorides
- (ii) Excessive discharge of nutrients
- (iii) Excessive discharge of suspended solids

The correct answer is

- (A) only (i)
- (B) only (ii)
- (C) both (i) and (ii)
- (D) all of the above

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 83 Question Id : 26723610183 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The percentage of water in sewage is

- (A) 90%
- (B) 99%
- (C) 99.9%
- (D) 95% – 99%

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 84 Question Id : 26723610184 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A given sludge with 99% moisture is x times more bulky than with 98% moisture
where x is

- (A) $99/98$
- (B) 2
- (C) $1 + 98/99$
- (D) $1 + 99/98$

Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

Question Number : 85 Question Id : 26723610185 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The sewage treatment units which work on the aerobic decomposition of organic matter is

- (A) Sludge digestion tank
- (B) Rotating biological contactors
- (C) Imhoff tank
- (D) none of the above

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 86 Question Id : 26723610186 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The usual adopted range of sludge volume index (SVI) is

- (A) 0 – 50 ml/gm
- (B) 50 - 150 ml/gm
- (C) 150 – 300 ml/gm
- (D) 25 – 60 ml/gm

Options :

- 1. ✓ A
- 2. ✗ B

3. ✖ C

4. ✖ D

Question Number : 87 Question Id : 26723610187 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The sewage treatment units which work on the anaerobic decomposition of organic matter is

(A) activated sludge units

(B) oxidation ponds

(C) Imhoff tanks

(D) none of the above

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 88 Question Id : 26723610188 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A sheet of paper moistened with lead acetate is inserted inside a sewer and is kept there for 4 – 6 minutes. After that sheet of paper is taken out. It has been found that sheet of paper has turned black. It indicates the presence of which of the gas inside the sewer.

(A) hydrogen sulphide

(B) sulphur dioxide

(C) carbon dioxide

(D) all of the above

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 89 Question Id : 26723610189 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

An air parcel having 40°C temperature moves from ground level to 500 m elevation in dry air following the “adiabatic lapse rate”. The resulting temperature of air parcel at 500m elevation will be

- (A) more than 40°C
- (B) less than 40°C but more than 35 °C
- (C) less than 35 °C but more than 30 °C
- (D) Nearly 35 °C

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 90 Question Id : 26723610190 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

SO₂ and CO adversely affect

- (A) oxygen carrying capacity of blood and functioning of lungs respectively
- (B) functioning of the respiratory system and oxygen carrying capacity of blood respectively
- (C) functioning of the respiratory system and functioning of lungs respectively
- (D) both reduce oxygen carrying capacity of blood

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 91 Question Id : 26723610191 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Pre-cursors to photochemical oxidants are

(A) NOX, VOCs and sunlight

(B) NOX, ozone and sunlight

(C) SO₂, NH₃ and sunlight

(D) smoke, fog and ozone

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 92 Question Id : 26723610192 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A sample of air analysis at zero degree centigrade and 1 atm pressure is reported to contain 22.5 mg/m³ of CO. Determine the concentration in ppm

- (A) 18 ppm
- (B) 1.8 ppm
- (C) 11.25 ppm
- (D) 22.5 ppm

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 93 Question Id : 26723610193 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Smoke, fumes, ash, dust, nitric oxide and sulphur dioxide are the main sources of _____.

- (A) Primary Pollutants
- (B) Secondary pollutants
- (C) Bio-Degradable Pollutants
- (D) Mix of all the above

Options :

- 1. ✓ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 94 Question Id : 26723610194 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Statement 1 : The function of first stage of two stage digester is to separate the digested solid from the supernatant liquor, and in the process, additional digestion and gas production may occur.

Statement 2: The function of second stage of the two stage digester is being used for digestion, mixing and heating of waste sludge.

(A) only 1 is correct

(B) only 2 is correct

(C) both are correct

(D) none of them is correct

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 95 Question Id : 26723610195 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In which type of digester, the sludge is mixed intimately by gas recirculation, mechanical mixing, pumping or draft tube mixer and heated to achieve optimum digestion rates.

- (A) Only High rate single-stage digester
- (B) Only Standard rate single-stage digester
- (C) Both high rate single stage digester and two-stage digester
- (D) None of them uses this

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 96 Question Id : 26723610196 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The retention time (R) of any digester is given by the volume of the digester pit (V, m³), divided by _____ ?

- (A) the proportion of total solid (TS) in the mixed slurry
- (B) the volume of the daily feed
- (C) The loading rate
- (D) volume of digester

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 97 Question Id : 26723610197 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Co-generation(with reference to energy recovery) refers to the combined production of _____ ?

(A) Carbon dioxide and electricity

(B) steam and electricity

(C) electricity and gases

(D) Steam, exhaust and gases

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 98 Question Id : 26723610198 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Why fluidised-bed technology may be a sound choice for high-recycling cities in developing countries when they first adopt incineration?

Statement 1: Fluidised-bed systems are more consistent in their operation than mass burn and can be controlled more effectively to achieve higher energy conversion efficiency, less residual ash and lower air emissions.

Statement 2: These systems appear to operate efficiently on smaller scales than mass-burn incinerators, which may make them attractive in some situations.

- (A) only statement 1 is the correct reason
- (B) only statement 2 is the correct reason
- (C) both are correct reasons
- (D) None is correct

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 99 Question Id : 26723610199 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The process of formation monomers from the complex organic carbon during Biogasification is called as

- (A) Hydrolysis
- (B) Acidogenesis
- (C) Methanogenesis
- (D) Acetogenesis

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 100 Question Id : 26723610200 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Concept of progressive filling and restoration is encouraged in which type of land filling technique?

- (A) Trench method
- (B) Area method
- (C) Cell method
- (D) Canyon/Depression method

Options :

- 1. ✓ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 101 Question Id : 26723610201 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Incineration of solid wastes aims at (i)Volume increament; (ii) volume reduction; (iii)stabilisation of waste; (iv)recovery of energy from waste; (v)sterilisation of waste

(A) only ii, iii,iv

(B) only iii, iv

(C) only ii, iii, iv and v

(D) only ii, iv

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 102 Question Id : 26723610202 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which of the following model in system modelling depicts the static nature of the system ?

(A) Structural Model

(B) External Model

(C) Behavioral Model

(D) Data Model

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 103 Question Id : 26723610203 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A safe level of noise depends on

(A) level of noise and exposure to noise

(B) area

(C) pitch

(D) frequency

Options :

1. ✓ A

2. ✗ B

3. ✘ C

4. ✘ D

Question Number : 104 Question Id : 26723610204 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Following scale is used for loudness of sound or noise

(A) linear scale

(B) logarithmic scale

(C) exponential scale

(D) none of the above

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 105 Question Id : 26723610205 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Global agreement in specific control strategies to reduce the release of ozone depleting substances, was adopted by

- (A) The Vienna Convention
- (B) Rio de Janeiro Conference
- (C) The Montreal Protocol
- (D) The Koyoto Protocol

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 106 Question Id : 26723610206 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The basic objectives of The United Nations Framework Convention on Climate Change is

- (A) To stabilize the melting ice of Antarctic Ocean
- (B) To stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.
- (C) Reduce the carbon emission upto the level of 1992
- (D) Stabilize the ozone layer depletion.

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 107 Question Id : 26723610207 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

When & where was the first UNFCCC Conference of Parties (COP) took place?

(A) April 1995 in Berlin, Germany

(B) June 1992 in Paris, France

(C) August 1997 in Kyoto, Japan

(D) Dec 1995 in Zeneva, Switzerland

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 108 Question Id : 26723610208 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which is not an indigenous microbe used for bioremediation?

- (A) *Piscirickettsia salmonis*
- (B) *Phanerochaete sordida*
- (C) *Pseudomonas aeruginosa*
- (D) *Deinococcus radiodurans*

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 109 Question Id : 26723610209 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Which cleanup approach involves removing groundwater or soil from its natural setting to allow for bioremediation?

- (A) In situ bioremediation
- (B) hybridization
- (C) Ex situ bioremediation
- (D) Phytoremediation

Options :

- 1. ✓ A
- 2. ✗ B

3. ✘ C

4. ✘ D

Question Number : 110 Question Id : 26723610210 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

A high BOD value in aquatic environment is indicative of-

- (A) A pollution free system
- (B) A highly polluted system due to excess of nutrients
- (C) A highly polluted system due to abundant heterotrophs
- (D) A highly pure water with abundance of autotrophs

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 111 Question Id : 26723610211 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Under which rule of Government, guidelines for solid waste management are followed today?

- (A) Municipal Solid Waste Rules, 2000
- (B) Municipal Solid Waste Rules, 2016
- (C) Solid Waste Management Rules, 2000
- (D) Solid Waste Management Rules, 2016

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 112 Question Id : 26723610212 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The centre of gravity of semi-circle of radius R from its base will be at

- (A) $4R/3\pi$
- (B) $3R/4\pi$
- (C) $4\pi/3 R$
- (D) $3\pi/4R$

Options :

- 1. ✓ A
- 2. ✗ B

3. ✘ C

4. ✘ D

Question Number : 113 Question Id : 26723610213 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In a sample of moist air at standard atmospheric pressure of 101.325 kPa and temperature 26°C, the partial pressure of water vapor is 1.344 kPa. If the saturation pressure of water vapor is 3.36 kPa at 26°C, then what are the humidity ratio and relative humidity of moist air sample?

(A) 0.00826 and 1.31%

(B) 0.00836 and 40%

(C) 0.01344 and 1.31%

(D) 0.01344 and 40%

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 114 Question Id : 26723610214 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Residual chlorine in water can be determined by

(A) orthotolidine test

(B) starch iodide test

(C) (a) and (b)

(D) none of these

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D

Question Number : 115 Question Id : 26723610215 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

In the design of water supply conduits, the smaller value of the design velocity, if adopted will

(A) increase the cost of the pipe

(B) reduce the cost of pumping

(C) both of the above

(D) none of the above

Options :

1. ✓ A

2. ✗ B

3. ✘ C

4. ✘ D

Question Number : 116 Question Id : 26723610216 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The velocity of flow in a sedimentation tank is generally kept at

(A) 0.3 m/sec

(B) 0.3 m/minute

(C) 0.3 m/hr

(D) 0.3 m/day

Options :

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

Question Number : 117 Question Id : 26723610217 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

The rate of filtration in slow sand filters is between

- (A) 25 – 60 million litres/day/hectare
- (B) 100 – 170 million litres/day/hectare
- (C) 120 – 15 million litres/day/hectare
- (D) more than 200 million litres/day/hectare

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

Question Number : 118 Question Id : 26723610218 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Slow sand filters can remove bacteria upto

- (A) 90 – 92%
- (B) 92 – 95%
- (C) 95 – 97%
- (D) 97 – 99%

Options :

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C

4. ✖ D

Question Number : 119 Question Id : 26723610219 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Methods used for softening water containing permanent hardness are

(A) lime soda process

(B) zeolite process

(C) reverse osmosis

(D) all the three

Options :

1. ✔ A

2. ✖ B

3. ✖ C

4. ✖ D

Question Number : 120 Question Id : 26723610220 Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0.25

Sludge bulking indicates presence of

(A) satisfactory conditions in the activated sludge treatment

(B) unsatisfactory conditions in the activated sludge treatment

(C) bacteria in the primary sludge tank

(D) silt in the detritus tank

Options :

1. ✓ A

2. ✗ B

3. ✗ C

4. ✗ D