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National Testing Agency

Question Paper Name :	Solid and Hazardous Waste Management 25th March 2021 Shift 1
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Solid and Hazardous Waste Management

Group Number :	1
Group Id :	864351137
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Break time :	0
Group Marks :	100
Is this Group for Examiner? :	No

Solid and Hazardous Waste Management-1

Section Id :	864351559
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	20
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	864351605
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 86435111617 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Optimum temperature range for incineration of solid waste is _____.

1. 200 - 350 °C
2. 400 - 550 °C
3. 850 - 1150 °C
4. more than 2000 °C

Options :

- 86435138283. 1
- 86435138284. 2
- 86435138285. 3
- 86435138286. 4

Question Number : 2 Question Id : 86435111618 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which formula is used to calculate "Village Cleanliness Index"?

1. Village Cleanliness Index (C) = $0.4 \times X_1 + 0.3 \times X_2 + 0.1 \times X_3 + 0.2 \times X_4$
2. Village Cleanliness Index (C) = $0.4 \times X_1 + 0.2 \times X_2 + 0.1 \times X_3 + 0.3 \times X_4$
3. Village Cleanliness Index (C) = $0.3 \times X_1 + 0.4 \times X_2 + 0.2 \times X_3 + 0.1 \times X_4$
4. Village Cleanliness Index (C) = $0.1 \times X_1 + 0.2 \times X_2 + 0.3 \times X_3 + 0.4 \times X_4$

Options :

86435138287. 1
86435138288. 2
86435138289. 3
86435138290. 4

Question Number : 3 Question Id : 86435111619 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Constructed wetlands are used for the treatment of_____.

1. Biomedical waste
2. Radioactive waste
3. E -Waste
4. Liquid waste

Options :

86435138291. 1
86435138292. 2
86435138293. 3
86435138294. 4

Question Number : 4 Question Id : 86435111620 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which convention is related to control of trans-boundary movement of hazardous waste?

1. Basel convention
2. Vienna convention
3. Ramsar convention
4. Paris Treaty

Options :

86435138295. 1
86435138296. 2
86435138297. 3

86435138298. 4

Question Number : 5 Question Id : 86435111621 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The correct sequence of key stages of anaerobic digestion

- A. acidogenesis
- B. methanogenesis
- C. acetogenesis
- D. hydrolysis

Choose the **correct** answer from the options given below

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

Options :

- 86435138299. 1
- 86435138300. 2
- 86435138301. 3
- 86435138302. 4

Question Number : 6 Question Id : 86435111622 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

The color of the dustbin used for disposal of biodegradable waste is_____ .

1. Red
2. Green
3. Yellow
4. Blue

Options :

86435138303. 1
86435138304. 2
86435138305. 3
86435138306. 4

Sub-Section Number :

2

Sub-Section Id :

864351606

Question Shuffling Allowed :

Yes

Question Number : 7 Question Id : 86435111623 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Solid waste management rules 2016 consists of 2 schedules and 6 forms .

1. True
2. False

Options :

86435138307. 1
86435138308. 2

Question Number : 8 Question Id : 86435111624 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Category 4 biomedical waste is collected in Yellow colour coded bags.

1. True
2. False

Options :

86435138309. 1

86435138310. 2

Sub-Section Number :

3

Sub-Section Id :

864351607

Question Shuffling Allowed :

Yes

Question Number : 9 Question Id : 86435111625 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

In Waste hierarchy, the correct sequence of least favoured option to most favoured option is?

- A. Prevention
- B. Disposal
- C. Recycling
- D. Energy recovery
- E. Minimization

Choose the **correct** answer from the options given below

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

Options :

86435138311. 1

86435138312. 2

86435138313. 3

86435138314. 4

Sub-Section Number :

4

Sub-Section Id : 864351608

Question Shuffling Allowed : Yes

**Question Number : 10 Question Id : 86435111626 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0**

Sulphur content is not analyzed during Proximate analysis of solid waste.

1. True

2. False

Options :

86435138315. 1

86435138316. 2

Sub-Section Number : 5

Sub-Section Id : 864351609

Question Shuffling Allowed : Yes

**Question Number : 11 Question Id : 86435111627 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No
Correct Marks : 1 Wrong Marks : 0**

Match **List I** with **List II**

List I	List II
Material	Example
A. Adsorbent material	I. wood preservatives
B. Pozzalana material	II. Activated carbon
C. Radioactive material	III. Fly ash
D. Hazardous material	IV. Tritium

Choose the **correct** answer from the options given below:

1. A - II, B - III, C - IV, D - I
2. A - I, B - II, C - III, D - IV
3. A - IV, B - II, C - I, D - III
4. A - III, B - II, C - I, D - IV

Options :

86435138317. 1
86435138318. 2
86435138319. 3
86435138320. 4

Question Number : 12 Question Id : 86435111628 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

According to Plastic Waste Management Rules, 2016, minimum thickness of plastic carry bags should be _____.

1. 20 micron
2. 40 micron
3. 50 micron
4. 75 micron

Options :

- 86435138321. 1
- 86435138322. 2
- 86435138323. 3
- 86435138324. 4

Sub-Section Number : 6
Sub-Section Id : 864351610
Question Shuffling Allowed : Yes

Question Number : 13 Question Id : 86435111629 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Clean India Mission is a country-wide campaign initiated by the Government of India in 2016 to eliminate open defecation and improve solid waste management (SWM).

- 1. True
- 2. False

Options :

- 86435138325. 1
- 86435138326. 2

Sub-Section Number : 7
Sub-Section Id : 864351611
Question Shuffling Allowed : Yes

Question Number : 14 Question Id : 86435111630 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is not a biological method of solid waste treatment?

- 1. Incineration
- 2. Composting
- 3. Vermicomposting
- 4. Biomethanation

Options :

- 86435138327. 1
- 86435138328. 2
- 86435138329. 3
- 86435138330. 4

Question Number : 15 Question Id : 86435111631 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

For solid waste collection, Non-compactor trucks are used to cover a distance of _____ km.

- 1. < 5
- 2. <15
- 3. > 15
- 4. > 40

Options :

- 86435138331. 1
- 86435138332. 2
- 86435138333. 3
- 86435138334. 4

Question Number : 16 Question Id : 86435111632 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which of the following is not a recommended option for the treatment and disposal of Human Anatomical Waste?

- 1. Incineration
- 2. Plasma Pyrolysis
- 3. Encapsulation
- 4. Deep burial

Options :

86435138335. 1

86435138336. 2

86435138337. 3

86435138338. 4

Question Number : 17 Question Id : 86435111633 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

There are 7 types of plastics. Which of the following is Type - 1 plastic?

1. PETE

2. HDPE

3. PVC

4. LDPE

Options :

86435138339. 1

86435138340. 2

86435138341. 3

86435138342. 4

Question Number : 18 Question Id : 86435111634 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Pyrolysis is a

1. Thermal process

2. Biological process

3. Phytoremediation process

4. Cryogenic process

Options :

86435138343. 1

86435138344. 2

86435138345. 3

86435138346. 4

Question Number : 19 Question Id : 86435111635 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Which one of the following is non-ionizing radiation?

1. Gamma radiations
2. Visible radiations
3. X- rays
4. Neutron

Options :

86435138347. 1
86435138348. 2
86435138349. 3
86435138350. 4

Sub-Section Number :

8

Sub-Section Id :

864351612

Question Shuffling Allowed :

Yes

Question Number : 20 Question Id : 86435111636 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 1 Wrong Marks : 0

Open burning of solid waste is better than its incineration.

1. True
2. False

Options :

86435138351. 1
86435138352. 2

Section Id :	864351560
Section Number :	2
Section type :	Offline
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	30
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	864351613
Question Shuffling Allowed :	No

Question Number : 21 Question Id : 86435111637 Question Type : SUBJECTIVE
Correct Marks : 3

How is solid waste generation rate of a city calculated?

Question Number : 22 Question Id : 86435111638 Question Type : SUBJECTIVE
Correct Marks : 3

Which factors influence solid waste generation?

Question Number : 23 Question Id : 86435111639 Question Type : SUBJECTIVE
Correct Marks : 3

Make a diagram for waste hierarchy.

Question Number : 24 Question Id : 86435111640 Question Type : SUBJECTIVE
Correct Marks : 3

What are the characteristics of hazardous wastes?

Question Number : 25 Question Id : 86435111641 Question Type : SUBJECTIVE

Correct Marks : 3

What are different types of composting?

Question Number : 26 Question Id : 86435111642 Question Type : SUBJECTIVE

Correct Marks : 3

Which parameters are considered while selecting the sanitary landfill site?

Question Number : 27 Question Id : 86435111643 Question Type : SUBJECTIVE

Correct Marks : 3

What are Landfill bioreactors?

Question Number : 28 Question Id : 86435111644 Question Type : SUBJECTIVE

Correct Marks : 3

Differentiate Incineration and pyrolysis

Question Number : 29 Question Id : 86435111645 Question Type : SUBJECTIVE

Correct Marks : 3

What are the sources of E-waste?

Question Number : 30 Question Id : 86435111646 Question Type : SUBJECTIVE

Correct Marks : 3

Which methods are suitable for solid waste management in rural areas?

Solid and Hazardous Waste Management-3

Section Id :	864351561
Section Number :	3
Section type :	Offline
Mandatory or Optional :	Mandatory
Number of Questions :	7
Number of Questions to be attempted :	5
Section Marks :	50
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	864351614
Question Shuffling Allowed :	No

Question Number : 31 Question Id : 86435111647 Question Type : SUBJECTIVE

Correct Marks : 10

Explain different methods of size and volume reduction of solid waste.

Question Number : 32 Question Id : 86435111648 Question Type : SUBJECTIVE

Correct Marks : 10

Explain different methods used for the treatment of Hazardous wastes.

Question Number : 33 Question Id : 86435111649 Question Type : SUBJECTIVE

Correct Marks : 10

Explain the management of Radioactive wastes.

Question Number : 34 Question Id : 86435111650 Question Type : SUBJECTIVE

Correct Marks : 10

Explain the process of vermicomposting.

Question Number : 35 Question Id : 86435111651 Question Type : SUBJECTIVE

Correct Marks : 10

How mechanical biological treatment of municipal solid waste is carried out. Explain using suitable diagrams.

Question Number : 36 Question Id : 86435111652 Question Type : SUBJECTIVE

Correct Marks : 10

Give the salient features of Hazardous and Other Waste (Management and Transboundary Movement) Amendment Rules, 2016.

Question Number : 37 Question Id : 86435111653 Question Type : SUBJECTIVE

Correct Marks : 10

Make a Solid Waste Management plan for New Delhi using different methods.