

Rajasthan pollution control board RSPCB JSO 2016 Paper

Code: P

Junior Scientific Officer

(C) Paper

/Almana

Q001:	A group of organisms that are extremely (A) Epiphytic lichens. (C) Ferns	y sensitive to air pollution is: (B) Orchids (D) Angiosperms
0002:	Controlling Officer of 'Public hearing' in (A) District Magistrate (B) NGO Officer (C) Regional Officer, Pollution Control B (D) Factory Inspector	
Q003:	Which of the following cities produces h (A) Pune (C) Ahmedabad	nighest amount of e-waste? (B) Kolkata + (D) Jaipur,
Q004:	'Scoping' for EIA is decided by (A) Consultant (C) Expert appraisal committee	(B) Project proponent (D) Public
Q005:	The most widely used method of dispos (A) Recycling (C) Exporting	ing e-waste is: (B) Incineration (D) Landfilling
Q006:	The unit of colour is that produced by 1 distilled water. (A) Platinum cobalt (C) Cobalt	mg of in one litre of (B) Magnesium cobalt (D) Platinum
Q007:	The standard BOD test is carried out for (A) 3 days at 28°C (C) 5 days at 27°C (C)	a period of: (B) 5 days at 20°C ► (D) 3 days at 20°C ト
0008:	Which electrode is used for measureme (A) Glass (C) RTD Probe	nt of pH of aqueous solutions? (B) Calomel (D) Fluoride
Q009:	Which is <u>not</u> an example of bulky waste (A) Leaves <	? (B) Glass

(D) Plastic

Q010: Where in India was the first aerobic composting plant set up in 1992?

I MTTTAT	OCICIECITIC GILLOU-	
damak	A PM ₁₀ sampler runs for 23.5 hours at a The tare weight of the filter was 48.02 parties to same humidity as the fresh filter average PM ₁₀ concentration, in μ g/m ³ , (A) 70	g, and the gross weight of the filter, er, was 48.09 g. What was the
Q012:	Find the correct ratio b:a if ratio (b+a): (A) 3:5 (C) 2:3	(b-a) is equal to 5:1. (B) 3:2 (D) 5:3
Q013:	Which of the following is <u>not</u> a basic un (A) Mole (C) Gram	nit of 'SI System of Units'? (B) Meter (D) Second
Q014:	The arsenic estimation field kit is based (A) Standard Mercuric fluoride (B) Standard Potassium Bromide stain (C) Standard Mercuric Bromide stain n (D) Standard Gram stain technique	method
Q015:	MPN index is a measure of one of the (A) Hardness (C) Coliform bacteria	following: (B) BODs (D) Dissolved Oxygen Content
Q016:	Municipal sewage sludge can be used unsuitable by presence of the(A) Phosphates (C) Nitrates	as a fertilizer but may be rendered contaminants. (B) Heavy metals ~ (D) Organic matter
0017:	If a city has a population of 5 lacs and lacs, then in the city with higher population is usually (A) Significantly lower * (C) Lower *	another city has a population of 50 lation; solid waste generation per (B) Same (D) Higher
Q018:	The mesophillic bacteria grow best in (A) 25-40°C ✓ (C) Above 60°C	temperature range: (B) Less than 20°C (D) 45-60°C

**		
Q019:	The e-waste reaches India from percentage is imported from:	all across the world. The highest
	(A) EU	(B) USA~
	(C) China	(D) Australia
Q020:	Which dance form, originally fro site?	m Rajasthan, has found a place in UNESCO
- succession	(A) Bharatnatyam	(B) Kuchipudi
San	(C) Odissi	(D) Kalbelia ∽
Q021:	Biggest consumers of electronic	products in India are:
	(A) Cinema halls	(B) IT companies ✓
Marine property and Comment	(C) Hospitals	(D) Government
Q022:	Which of the following days is ob	oserved as World Water Day?
- Maritimeter	(A) 15 th August	(B) 16 th September
Salar Sa	(C) 22 nd March \checkmark	(D) 5 th June
Q023:	NO ₂ in mg per 1000 m ³ of air?	30 μg/m ³ . What is the concentration of
	(A) 0.08 (C) 80.0	(B) 800.0 (D) 8.0
Q024:	If a compound is analysed to con mass, the empirical formula of th	tain 86% carbon and 14% hydrogen by
	(A) CH ₃	LB) CH2
	(C) CH ₄	(D) CH
<u>Q025</u> :	5: What is the life (in years) of landfill site if size of plot is 100x100x10 metr and the quantity of waste coming daily is 10 Ton with density of 500 kg/m ³ ?	
	(A) 15.5	4B) 13.5
	(C) 14.5	(D) 16.5
Q026:	The maximum acceptable limit o 2012 is:	f <u>iron i</u> n drinking water as per IS 10500:
- The State of the	(A) 0.1 mg/l	(B) 1.0 mg/l
Aparter Carrier	(C) 0.3 mg/l	(D) 1.3 mg/l
Q027:	Impacts in EIA(cannot be)	
Marinian.	(A) Minutes	Int many the

(A) Area methody

jun	or scientific Officer		Code: 1
6028	Project category for 'Chemical fertiliz (A) Category A ✓ (C) Category D ≮	er industry' is (B) Category C* (D) Category B	
Q029	An example of putrescible solid waste is:		
	(A) Wood	(B) Soil	
1	(C) Paper	(D) Food 🗸	
Q030	The effect of gaseous pollutant deper	nds mainly on it's	
	(A) Hydrophobic nature	(B) Solubility in water	
	(C) Corrosive ability	(D) Longevity in air	
Q031: <i>刭</i>)	category denote? (A) Harmful		oes C2
	(C) Corrosive	(D) Oxidizing 🕫	
Q032:	What are the potential routes of expointo the human body through the air? (A) Dermal absorption (C) Ingestion of food products	sure of the environmental (B) Inhalation (D) All of these	pollutants
Q033:	If the waste water contains Total Kjeld its ultimate nitrogeneous B.O.D. (NBO) mgO ₂ /I. (A) 180 (C) 166	ahl Nitrogen (TKN) of 30 n D) shall be approx. equal to (B) 138 (D) 158	ng/l, then o
Q034:	Which is <u>not</u> an anthropogenic source pollution in a region? (A) Dust from concrete batching plant (C) Forest fire		
Q035:	The end products of aerobic and anaerone common constituent. This common anaerobic processes is: (A) H ₂ O (C) H ₂ S	obic biological processes c	ontain nd
Q036:	Which is the best method of landfilling,	if water table is very high	?

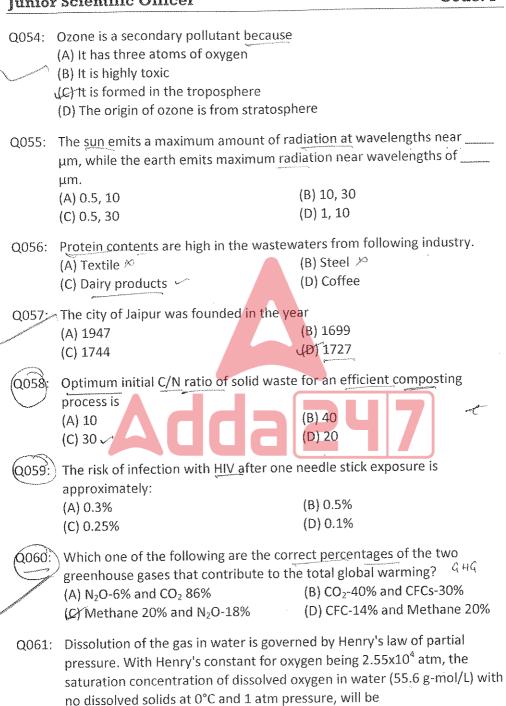
7	Q037:	Which chemical coagulant, without pH of treat surface water having pH 9.6? (A) Poly Aluminium Chloride (C) Aluminium sulphate	(B) Ferrous sulphate (D) All of the above
	Q038:	According to National Ambient Air Qual concentration of Nitrogen dioxide (NO ₂ areas, as notified by Government of Ind (A) 20) in μg/m³, in ecologically sensitive
Abberra	Q039:	Graphic and photographic waste liquor (A) Lead – (C) Thiosulphates and silver	s carry: (B) Mercury and arsenic (D) Gold
	Q040:	The wastewater generation standard for produced is: (A) 05 (C) 30	(B) 12 (D) 20
	(0041)	Sucrose (C ₁₂ H ₂₂ O ₁₁) was dissolved in wa The rounded value of Theoretical Oxyg will be: (A) 112 mg/L - (C) 45 mg/L	ter in a concentration of 100 mg/L. en Demand for this sucrose solution (B) 176 mg/L (D) 450 mg/L
San Comment	Q042:	Blue babies disease in infants is caused (A) Conversion of nitrates to nitrates (B) Conversion of nitrites to nitrates (C) Reaction between haemoglobin and (D) Both (a) and (b)	> Nov (-3)
	(δ043)	Which colour of container is used to comedical waste? (A) Green (C) Black	(B) Red (D) White
	Q044:	Peritoneal Mesothelioma is a rare form (A) Asbestos (C) Pesticides	n of cancer and is associated with: (B) Radon gas (D) Lead

Q045:	High calorific value of solid waste is nee (A) Composting (C) Landfilling	eded for: (B) Anaerobic digestion (D) Incineration
Q046:	Environmental clearance at State level (A) State pollution control Board (B) State environment impact assessment (C) Central pollution control Board (D) State Department of Environment (C)	SPCB ent authority SEIAA
Q047:	Density of municipal solid waste is in th (A) 100-200 kg/m ³ (C) 1000-1200 kg/m ³	e range of \{B) 400-700 kg/m³ (D) 200-300 kg/m³
Q048:	What is the recycling symbol of plastic? (A) Four bent arrows in a square with a (B) A number in a circle (C) One arrow curved in a circle with a use of the companion of the circle with a use of the circle with the circle with a use of the cir	number inside number inside
Q049:	At a certain temperature, the equilibriu $[H_2(g)] = 0.3$; $[I_2(g)] = 0.3$; and $[HI(g)] = H_2(g) + I_2(g) \rightarrow 2HI(g)$. The value of equilibrium reaction will be:	3.0 for the reaction uilibrium constant (K _c) for this (B) 33
Q050°	(C) 1x10 ² A water treatment plant treats 5000 cu consumes 20 kg of chlorine per day, the (A) 10.0 mg/l (C) 0.25 mg/l	
Q051:	The unit of turbidity measurement is (A) NTU (C) micron/l	(B) TON (D) moles/I
Q052:	What does the Basel convention contro	ol? (B) Trade in recycled materials

(C) Export of hazardous waste x (D) Production of excess packing x

(A) 13.8 mg/L

(C) 16.5 mg/L



(B) $8.4 \, \text{mg/L}$

(D) 14.6 mg/L

Q062:	medal tally, in Rio Olympics, 2016?	
	(A) 0, 1	(8) 1, 1
	(C) 1, 0	(D) 1, 2
Q063:	Explosives will be categorized as:	
·	(A) Industrial waste ~	(B) Demolition waste *
and the same	(e) Hazardous waste	(D) Municipal waste »
Q064:	The principal source of volatile organic	s (Hydrocarbons) is:
~~~	(A) Stationary fuel combustion	(B) Volcanoes
	(C) Transportation	(D) Industrial processes
Q065:	A student multiplied a, nonzero positiv	e integer number by 3/5 instead of
Signature of the state of the s	5/3, what is the percentage of error in	the calculation?
	(A) 84%	(B) 64%
	(C) 54%	(D) 74%
Q066:	The tropic of Cancer passes through w	hich state
State of the State	(A) Rajasthan	(B) Andhra Pradesh
	(C) Kerala	(D) Jammu and Kashmir
0000	Att a Call form of CCT?	
Q067:	What is the full form of GST?	(B) Goods Sold Tax
march to a feet gate who we	(A) Gross Service Tax	(D) Goods and Services Tax
J. Commission	(C) General Sales Tax	CD) Goods and Services Tax
Q068:	Name the major alternate vehicle fuel	, implemented in most of the public
	vehicles of Indian cities, for air pollution	on control
	(A) Combustible Nitrite Gas	(B) Compressed Natural Gas
	(C) Compressed Biological Gas	(D) Combined Natural Gas
0069	Sulphur containing bacteria present in	Municipal Sewage are
Quu	(A) Heterotrophic bacteria	(B) Autotrophic bacteria?
- Commission	(C) Saprophytic bacteria	(D) Pathogenic bacteria
		, ,
Q070:	The function of automobile catalytic o	onverter is to control emissions of:
	(A) Carbon dioxide and hydrogen 🔨	· ·
and the second	(B) Carbon monoxide and nitrogen did	oxide [©]
and the second s	(C) Carbon monoxide and carbon diox	
	(D) Carbon monoxide and hydrocarbon	

The major pollutants emitted from coal-based power plants are: (B) Fluoride, SO₂ and arsenic (A) Copper, CO and NO₂  $(D)SO_2$ ,  $NO_x$  and particulate (C) Potassium, CO₂ and CO Typically, a tannery wastewater has TDS and COD contents as follows: (B) 1200 mg/L, 12000 mg/L (A) 15000 mg/L, 500 mg/L (D) 1200 mg/L, 500 mg/L (C) 15000 mg/L, 5000 mg/L Q073: Which is a suitable method for disposal of toxic waste? (B) Secure landfill (A) Gasification * (D) Composting v (C) Open dumping * 2074: Capacity of container used at individual house for waste collection is generally: (B) 10-20 kg ~ (A) 30-50 kg (D) 20-40 kg (C) 1-2 kg Q075: A project may not be permitted if EIA reveals impacts that are (B) Temporary (A) Naturally irreversible (IP) Naturally reversible (C) Short-term Q076: Which material is preferred for collection of waste at household? (B) Steel (A) Plastic 4DT Wood (C) Bronze Q077: Where in Rajasthan is situated the longest wall in the world after Great Wall of China? (B) Mehrangarh Fort y (A) Rumbhalgarh Fort (D) Ranthambor Fort × Q078: Which metal is not found in E-Waste? (B) Mercury (A) Lead (AD) Calcium (C) Cadmium US EPA developed a state-of-the-art screening tool for administrative Q079: agencies to prioritize pollutants named as: (B) NADA (A) DANA (D) NATA (C) TANA Recycling of used oil is suitable when polychlorinated biphenyls (PCBs)

concentration is less than: mak upto

(A) 0.5 ppm

1011 man

(B) 1.25 ppm

(D) 2 ppm

Q081: Pandit Vishva Mohan Bhatt plays which instrument?

(A) Mohan Veena ✓

(B) Harmonium

(C) Sitar

(D) Dhol *

Q082: If heavy snow blocks your view of the sky, your report of sky cover would most correctly be:

(A) Clear

(B) Overcast

(C) Scattered

(D) Obscured

Q083: Since water is electrically neutral, the cations and anions must balance. Usually concentration of common ions is estimated in terms of mg/L in water sample for this purpose. Common ions with their approximate equivalent weights are Ca²⁺ [20], Mg²⁺ [24], Na⁺ [23], K⁺ [39] and HCO₃ [61], SO₄²⁻ [48], Cl⁻ [35], NO₃ [62]. The percentage difference between cation sum and anion sum in terms of milli-equivalents is used to check the correctness of analysis. Criterion for acceptance of correctness is that %difference in ion sums should not exceed 5% for low ion sum and 10% for high ion sum. A student obtained the following analysis results for analysis of final treated water sample drawn from a water treatment plant: calcium = 70.0 mg/L, magnesium = 18.0 mg/L, sodium = 23.0 mg/L, potassium = 3.9 mg/L, bicarbonate = 183.0 mg/L, sulfate = 72.0 mg/L, chloride = 35.0 mg/L, nitrate = 6.2 mg/L. What can be said about the correctness of analysis?

- (A) Reject and reanalyse both cations and anions
- (B) Accept cations and reanalyse anions
- (C) Accept anions and reanalyse cations
- (D) Accept as correct analysis

Q084: Industrial melanism is example of:

(A) Response to air pollutants

- (B) Darkening of skin due to industrial heat
- (C) Defensive adaptation of skin against UV radiation &
- (D) Drug resistance »

Q085: The temperature of municipal wastewater is:

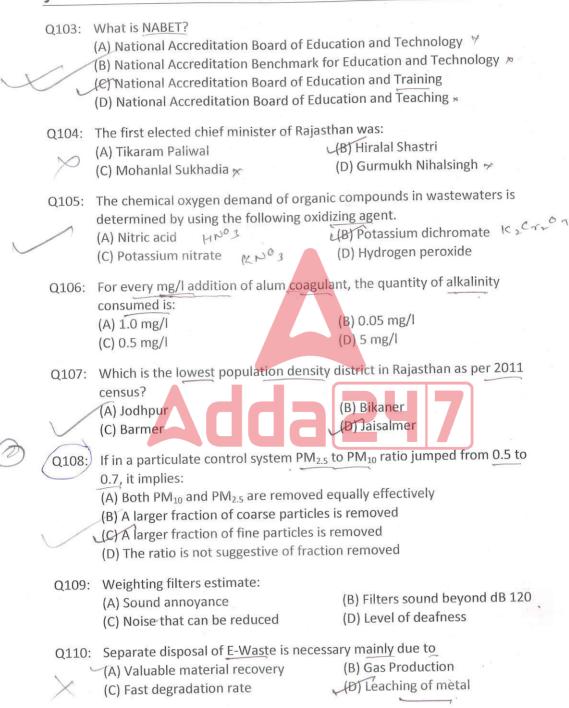
- (A) Much higher than water supply *
- (B) Slightly higher than water supply
  - (C) Lower than water supply (D) Same as water supply (A)

Q086:	The Great Smog of 1952 was formed ov (A) Paris (C) London	(B) New York (D) Mumbai
Q087:	From which industry/industries, chrom released in water.  (A) Dairy industry  (B) Cement plant  (C) Tanning, electro-plating industry  (D) Rice mill and sugar manufacturing i	ndustry
Q088:	The tolerance limits for inland surface Standards' for total coliform organism (A) 100 (min) (C) 500 (min)	waters Class-C as per ' River (MPN/100 ml) should be (B) 5000 (max) (D) 1500 (max)
Q089:	In which year the NGT Act was publish (A) 2012 (G) 2010	ed? (B) 2009 (D) 2011
Q090:	EIA is generally carried out by (A) Environmental Engineer (C) Process Engineer	代的 Multi-disciplinary team レ (D) Microbiologist
and the second of the second o	(C) Copper & manganese	(B) Chloride & nitrates (D) Aluminium & iron
Q092 T	: What is first step during degradation (A) Mineralization (C) Acidification	of organic mattenin biogas plant?  (B) Gas Generation (D) Hydrolysis
Q093	<ul> <li>Carbon Mono-oxide is a pollutant bed</li> <li>(A) It reacts with Oxygen</li> <li>(C) Makes nervous system inactive</li> </ul>	cause  (B) It reacts with haemoglobin  (D) It inhibits glycolysis
Q094	<ul><li>1: The amount of waste generated by p is approximately:</li><li>(A) 0.5 kg</li><li>(C) 3.0 kg</li></ul>	(B) 1 kg (D) 1.45 kg

The determination of chlorides in water by Mohr's method is based on Q095: (B) Complex metric titration - FOTA principle of (A) Precipitation titration (D) Acid-base titration (C) Redox titration The following chemical is not a disinfecting agent. Q096: (B) Bromine (A) Todine (D) Alum (C) Chlorine Direct exposure to which two chemicals in hazardous waste can cause Q097: death? (B) Mercury and Cyanide (A) Sulphur and Arsenic (D) Cyanide and Sulphur (C) Mercury and Fluoride A particle is travelling in a gas stream with velocity 20 m/s and radius 0.5 (Q098: meter. What is the ratio of centrifugal force to the gravity force acting on it? (B) 81.6 (A) 85.0 (D) None of these (C) 80.0Which one of these districts does not share a border with Pakistan? Q099: (B) Sri Ganganagar (A) Barmer (D) Jodhpur (C) Jaisalmer Q100: Given a data set of ten observations on a water quality parameter, the mean and standard deviation of the data-set are 10 and 1 respectively. On adding 5 to each data value, the mean and standard deviation will be: (A) Mean = 15, standard deviation = 6 (B) Mean = 10, standard deviation = 6 (C) Mean = 10, standard deviation = 1(D) Mean = 15, standard deviation = 1 The permissible limit of Arsenic, in μg/L, in water based on BIS (IS: 10500) 0101: is: 4B/5 (A) 50 (D) 15 (C) 25

Q102: Warming in the stratosphere is mainly caused by:

(A) Absorption of ultraviolet radiation by ozone. (B) Frictional heating caused by meteorites. A



20		
Q111:	The general standard for discharge of maximum concentration of suspended solids of effluent into inland surface water is:	
allow the addition of the	Name of the Control o	
and the state of t	(A) 100 mg/l	(B) 600 mg/l
	(C) 1000 mg/l	(D) 200 mg/l
Q112:	It is desirable to know the frequency o	f sound along with its decibel level
	(A) Sound pressure and frequency are	important for conic boom
		And Anderson Control of the Control
	(B) Perceptible noise to human ear relapressure	ates to both frequency and sound
	(C) Frequency alone decides the annoy	rance level
	(D) Decibel level depends on frequency	y of sound
Q113:	To find out the amount of suspended s 250 mL of water was filtered through	filter paper. The weights of filter
paper before and after filtration were 12 mg and 37 mg, respec		12 mg and 37 mg, respectively.
	What is the concentration of suspende	d solid in the water at the sampling
	location of River Ganges?	
	(A) 25 mg/L	(B) 37 mg/L
	(C) 12 mg/L	(D) 100 mg/L
Q114:	Pressure changes:	<b>547</b>
	(A) More rapidly in the vertical direction	
	(B) At the same rate in the horizontal a	nd vertical directions »
C	$\sim$ (C) More rapidly in the horizontal direc	ction than in the vertical
	(D) More rapidly in the vertical direction	on over land than over the ocean
Q115:	Without the atmospheric greenhouse temperature would be:	effect, the average surface
	(A) The same as it is now	(B) Higher than at present
	(C) Much more variable than it is now	
	(a) mach more variable than it is now	in a prosent
Q116:	The time taken for paper to degrade a	fter disposal is:
	(A) 30-60 days	(B) 50-100 days
	(C) 10-30 days	(D) 5-10 days

Q117: Need of EPA was felt, in India, after

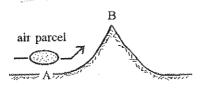
(A) Tsunami in Tamilnadu

(B) Earthquake in Gujarat

(E) Bhopal tragedy

(D) Gas leakage in Delhi

Q118: As in the figure below, an unsaturated air parcel moves from A to B, its volume will _____, and its temperature will _____.



- (A) Increase, remain the same
- (B) Remain the same, decrease

(C) Increase, decrease

(D) Decrease, increase

Q119: After the war of Dewair (1582 AD) Maharana Pratap build the new capital at:

(A) Chavand

(B) Udaipur

(C) Gogunda

(D) Kumbhalgarh

Q120: Ultimate analysis of solid waste includes the analysis of which elements?

(A) C, H, O, N, K

(B) C, H, O, P, N

(C) C, H, O, N, S

(D) C, H, P, K, O

Q121: What is 'Hard-data' used for EIA?

- (A) Reliable but temporary information that can be altered with time
- (B) Water quality data, where hard water is reported
- Reliable, permanent information not subjected to change with time
  - (D) Perspective driven information with high variability and uncertainties

Q122: Rajasthan is the top producer of which mineral?

(A) Copper

(B) Gold *

(C) Feldspar

(D) Iron

Q123: Which one is not a) method for source reduction?

(A) Recycling

(B) Recovery

(C) Composting

(D) Incineration

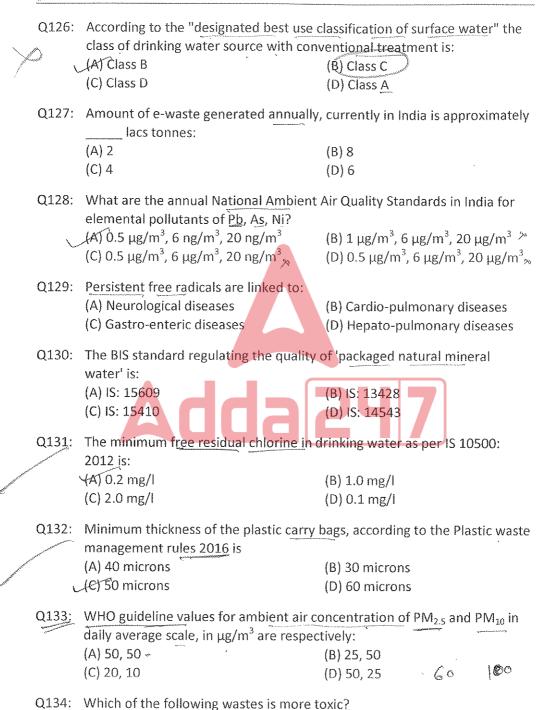
Q124: Lombard vocal response to noise pollution refers to:

- (A) Louder communication with each other by animals
- (B) Movement of animals to sound-free area
- (C) Response of plants to sound by increasing foliage (D) Movement of animals to higher reaches to avoid sound
- Q125: Traditionally what is the main occupation of the Gaduliya Lohar tribes?

(A) Farming (B) Folk dancing

(A) Bio-medical waste

(C) Dange K)



(B) Treatment plant sludge

Q135:	Which is the most common solid waste (A) Backyard service (C) Alley service	e collection service in India? (B) Setout-Setback service (D) Curb service 🛩
Q136:	Annual Average for air pollution means a year. (A) 104 (twice weekly) (C) 12 (monthly)	s total of measurements in  (B) 365 (daily)  (D) 24 (bi-monthly)
Q137:	Which method is <b>not</b> used for the analyair?  (A) Jacob & Hochheiser modified method (B) Indophenol method (C) West and Gaek method (D) Winkler method	
Q139:	One of the main tourist destinations we "Ranakpur Temple" is situated in which (A) Pali (C) Udaipur Noise levels of 50 dB(A) at night elevate	n district? (B) Rajsamand (D) Chittorgarh es levels of production of:
	(A) Adrenalin (C) Cortisol  In COD test, the organic matter is oxidis presence of strong acid. The acid used (A) $H_2SO_4$ (C) $HNO_3$	
C.	Appropriate use of the following technology effluent with a BOD and suspended sol (A) UASB (C) MBR	
Q142:	The permissible limit for Arsenic, in mg, waste treatment according to TCLP test (A) 2.5 (C) 1	

Q143: 'Gauna', a Rajasthani tradition, is associated with

Q144:	The minimum dissolved oxygen content in mg/l in a river necessary for the survival of aquatic life is:	
The second state of the se	(A) 0	(B) 8
A Company of the Party of the P	(A) 0 (C) 4	(D) 2
L	12)4	
Q145:	Out of the following which is a viral infe	ection?
	(A) Syphilis >	(B) Influenza 🗸
	(C) Cholera *	(D) Beri Beri >
Q146:	The wastewater from following industr	y contains high lignin.
and the state of t	(A) Fertilizers	し(B) Pulp and paper
Marine planting or the fact that the	(C) Textile	(D) Dairy
Q147: Q148: Q149:	A bag contains 50p, 25p and 10p coins amounting to Rs. 240. Find the number (A) 120, 480, 600 (C) 118, 472, 590  The BOD of wastewater generated from (A) 10000 mg/l (C) 5000 mg/l  Which component is not included in El (A) Air quality (C) Wastewater quality	mof coins of each type respectively.  (B) 110, 440, 550  (D) 124, 496, 620  modistillery is around:  (B) 1000 mg/l  (D) 40000 mg/l  A?  (B) Human behavior  (D) Safety
Q150:	If two sounds of 60 dB are added, ther	n what would be the resultant
mark the state of	sound?	
The same of the sa	(A) 120 dB	(B) 90 dB
	(e) 63 dB	(D) 65 dB