Shiksha Classes, Bhandara

Biology

Environmental Issues

- (1.) Any undesirable change in physical, chemical or biological characteristics of air, land, water or soil is known as
- (a.) population

(b.) pollution

(c.) mutation

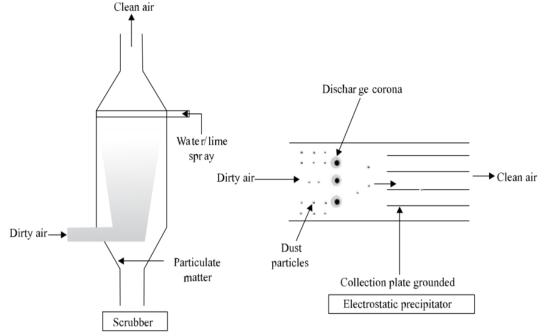
(d.) infection

- (2.) Air pollutants cause
 - (a.) reduction in growth of plants
- (b.) reduction in yield of crops
- (c.) premature death of plants
- (d.) all of these
- (3.) Among the following which one is used to remove particulate matter present in the exhaust from a thermal power plant?
- (a.) Catalytic converter

(b.) Electrostatic precipitator

(c.) HEPA filter

- (d.) None of these
- (4.) Refer to the given figure of electrostatic precipitator. The dust particles get precipitated by it, as it provides them with a [HOTS, Page: 271]



(a.) positive charge

(b.) negative charge

(c.) neutral

- (d.) none of these
- (5.) According to Central Pollution Control Board (CPCB), the greatest harm to human health is caused by the particulates of size
 - (a.) 2.5 micrometers

(b.) 4.0 micrometers

(c.) 3.5 micrometers

(d.) 3.0 micrometers

 (c.) CNG (d.) All of (7.) Catalytic converters change unburnt hydrocarbons into (a.) carbon dioxide and water (b.) methan (c.) carbon monoxide (d.) carbon (8.) Choose the incorrect statement from the following: (a.) Use of lead-free petrol and diesel can reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into (d.) Catalytic catalytic converters are fitted into 	biles for reducing emission of					
 (7.) Catalytic converters change unburnt hydrocarbons into (a.) carbon dioxide and water (b.) methan (c.) carbon monoxide (d.) carbon (8.) Choose the incorrect statement from the following: (a.) Use of lead-free petrol and diesel can reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into automobiles for reducing emission of hydrocarbons into 	ytic converter					
 (a.) carbon dioxide and water (b.) method (c.) carbon monoxide (d.) carbon (8.) Choose the incorrect statement from the following: (a.) Use of lead-free petrol and diesel can reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into automobiles for reducing emission of hydrodical converters. 	f these					
 (c.) carbon monoxide (d.) carbon (8.) Choose the incorrect statement from the following: (a.) Use of lead-free petrol and diesel can reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into automobiles for reducing emission of hydrodical carbon. 						
 (8.) Choose the incorrect statement from the following: (a.) Use of lead-free petrol and diesel can reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into automobiles for reducing emission of hydrodical converters. 	ane					
 (a.) Use of lead-free petrol and diesel can reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into automobiles for reducing emission of hydrodical converters. 	n dioxide and methane					
reduce vehicular pollution by reducing emission of pollutants. (c.) Catalytic converters are fitted into automobiles for reducing emission of hydrogeness.						
automobiles for reducing emission of hydro	ytic converters have platinum- and rhodium as the catalysts.					
	ytic converters, convert unburnt carbons into carbon dioxide and					
(9.) In India, the Air (Prevention and Control of Pollution) A	act, 1981 was amended in					
(a.) 1985 (b.) 1982						
(c.) 1987 (d.) 1984						
(10.) Match Column-I with Given below. Column-I Column-II and choose the given below. Column-I Column-II	and choose the correct option from the codes Column-II					
(A) Pollution (1) Removes	(1) Removes particulate matter					
(B) Environment (Protection) Act (2) Undesira	(2) Undesirable change in air, land, water or soil					
(C) Electrostatic precipitator (3) Reduces automobiles	(3) Reduces emission of poisonous gases from automobiles					
(D) Catalytic converter (4) 1986						
Codes						
A B C D						
(a.) 2 4 1 3						
(b.) 3 2 4 1						
(c.) 1 3 2 4						
(d.) 4 1 3 2						
(11.) Which loudness of sound can be withstood without disco	omfort?					
(a.) 30 dB (b.) 80 dE	3					
(c.) 150 dB (d.) 215 d	B					

(12.)	The major source of noise pollution is												
(a.)	transport s	ystem				(b.)	office equip	pment					
(c.)	sugar, textile and paper industries						oil refineries and thermal power pla						
(13.)	The material used for sound proofing of recording studio and auditorium is												
(a.)	coir					(b.)	styrofoam						
(c.)	cotton					(d.)	wood						
(14.)	Compressed Natural Gas (CNG) consists of [
(a.)	butane					(b.)) ethane						
(c.)	methane						propane						
(15.)	The maximum indoor chemical pollution is caused by												
(a.)	room spra	y				(b.)	burning coa	al					
(c.)	burning co	oking g	as			(d.)	burning mo	squito	coil				
(16.)	CNG is bett	ter than	diesel b	ecause									
(a.)	it burns me	ore effic	eiently			(b.)	it is comparatively cheaper						
(c.)	it cannot b	e adulte	erated			(d.)	all of these						
(17.)	It is essentia	al to ren	nove su	lphur fr	om pet	troleum	products beca	ause					
(a.)	it produces dioxide.	s large a	mount	of sulpl	nur	(b.)	this removed sulphur is used for commercial purposes.						
(c.)	it reduces the life span of engine silencers.						it reduces the efficiency of engine silencers.						
(18.)	Match Column-I with Column-II and choose the correct option from the codes given below.												
	Column-I						Column-II						
	(A) Catalytic converter (1) Undesired high level of sound												
	(B) Amended Air (Prevention and Control of (2) Compressed Natural Gas Pollution) Act												
	(C) CNG						(3) Platinumpalladium						
	(D) Noise					(4) 1987							
	Codes	A	В	C	D								
(a.)	4	2	1	3		(b.)	3	4	2	1			
(c.)	2	1	3	4		(d.)	1	3	4	2			
(19.)	Bharat Stag	e II is e	quivale	nt to									
(a.)	Euro III no	orms				(b.)	Euro II nor	ms					
(c.)	Euro IV no	orms				(d.)	None of the	ese					

(20.)	Assertion: Electrostatic precipitator is use Reason: It can remove over 99% particular power plant.		-		
(a.)	Both Assertion and Reason are true and Reason is correct explanation of Assertion.	(b.)	Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.		
(c.)	Assertion is true, but Reason is false.	(d.)	Assertion is false, but Reason is true.		
(21.)	Assertion: Noise is undesired high level of Reason: A sound of 80 dB can damage or				
(a.)	Both Assertion and Reason are true and Reason is correct explanation of Assertion.	(b.)	Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.		
(c.)	Assertion is true, but Reason is false.	(d.)	Assertion is false, but Reason is true.		
(22.)	Assertion: CNG burns more efficiently the Reason: In automobiles very little of it is	-			
(a.)	Both Assertion and Reason are true and Reason is correct explanation of Assertion.	(b.)	Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.		
(c.)	Assertion is true, but Reason is false.	(d.)	Assertion is false, but Reason is true.		
(23.)	The Government of India passed the wat the year	er (Pre	vention and Control of Pollution) Act in		
(a.)	1981	(b.)	1987		
(c.)	1974	(d.)	1985		
(24.)	Among the following impurities, which or	ne is ea	siest to remove from wastewater?		
(a.)	Colloids	(b.)	Bacteria		
(c.)	Dissolved solids	(d.)	Suspended solids		
(25.)	Refer to the given figure following compare showing types of impurities. Which or		•		
	Water 99.9% Impurities 0.1% Suspended solids, clay. Colloidal material, bacteria, cloth and particular (nitrate, ammonia, particular), sodium, calcium).	e.g., Feca paper fibi	nl matte r, res.		

- (1) Suspended solids, e.g., sand, silt and clay.
- (2) Colloidal material, e.g., Fecal matter, bacteria, cloth and paper fibres.

	(3) Dissolved materials, e.g., nutrients (1) Impurities 0.1%	nitrate,	ammonia, phosphate, sodium, calcium).
(a.)	1 and 2	(b.)	1 and 3
(c.)	2 and 3	(d.)	Only 3
(26.)	A lake which is rich in organic waste may	y result	in
(a.)	increased population of fish due to lots of nutrients.	(b.)	mortality of fish due to lack of oxygen.
(c.)	increased population of aquatic organisms due to minerals.	(d.)	drying of lake due to algal bloom.
(27.)	Biological Oxygen Demand (BOD) ma bodies receiving effluents from	y not l	be a good index for pollution of water
(a.)	petroleum industry	(b.)	sugar industry
(c.)	domestic industry	(d.)	dairy industry
(28.)	High level of BOD (Biochemical Oxyger	n Demai	nd) indicates that
(a.)	water is highly polluted.	(b.)	water is less polluted.
(c.)	consumption of organic matter in the water is higher by the microbes.	(d.)	water is pure.
(29.)	Choose the incorrect statement about alga-	al bloon	n.
(a.)	Algal bloom is excessive growth of planktonic algae.	(b.)	It imparts a distinct colour to the water bodies.
(c.)	It causes increase in number of fish present in the water body.	(d.)	It causes deterioration of the water quality.
(30.)	The green scums of fresh water bodies co	nsists c	of
(a.)	red algae	(b.)	green algae
(c.)	blue-green algae	(d.)	both (b) and (c)
(31.)	The distinct colour of water imparted by	algal bl	ooms is due to
(a.)	their pigments.	(b.)	excretion of coloured substances.
(c.)	formation of coloured chemicals in water facilitated by physiological degradation of algae.	(d.)	absorption of light by algal cell wall.
(32.)	Algal bloom and nuisance growth of acincreased concentration of	quatic p	plants in water bodies is usually due to
(a.)	sulphur	(b.)	carbon
(c.)	calcium	(d.)	phosphorus
(33.)	Rachel Carson's famous book 'Silent Spr	ring' is	related to
(a.)	noise pollution	(b.)	population explosion

(c.)	ecosystem management	(d.)	pesticide pollution							
(34.)	Among the following, which one is known as 'terror of Bengal'?									
(a.)	Wolffia	(b.)	Eichhornia							
(c.)	Nymphaea	(d.)	Typha							
(35.)	The most problematic aquatic weed of the	ne world	is							
(a.)	Wolffia	(b.)	Trapa							
(c.)	Eichhornia	(d.)	Azolla							
(36.)	The disease that is not caused by consuming contaminated water is									
(a.)	jaundice	(b.)	hepatitis B							
(c.)	cholera	(d.)	typhoid							
(37.)	Match Column-I with Column-II	and cho	pose the correct option from the codes							
(371)	given below.		-							
	Column-I	Colu	mn-II							
	(A) BOD	(1) E	Excessive growth of planktonic algae							
	(B) Algal bloom	(2) V	Vater-borne disease							
	(C) Terror of Bengal	(3) Biochemical Oxygen Demand								
	(D) Cholera	(4) Eichhornia crassipes								
	Codes A B C D									
(a.)	3 1 4 2	(b.)	4 2 3 1							
(c.)	2 4 1 3	(d.)	1 3 2 4							
(38.)	An increase in concentration of the toxic	eant at su	ccessive trophic levels is known as							
(a.)	eutrophication	(b.)	biomagnification							
(c.)	algal bloom	(d.)	none of these							
(39.)	Among the following which can undergo	o hiomac	mification?							
(a.)	SO ₂	(b.)	mercury							
(c.)	DDT	(d.)	both (b) and (c)							
(40.)	The highest DDT concentration in aquat									
(a.)	crab	(b.)	eel							
(c.)	phytoplankton	(d.)	seagull							
(41.)	The full form of DDT is									
(a.)	Dichloro Diethyl Trichloroethane	(b.)	Dichloro Diphenyl Trichloroethane							
(c.)	Dichloro Dipyrydyl Trichloroethane	(d.)	Dichloro Diphenyl Tetrchloroacetate							
(/	1 / / / /	(· ·)	1 - 3							

(42.)	Read the following statements about biomagnification and choose the correct option. (I) Biomagnification is the increase in concentration of the toxicant at successive trophic levels.										
	(II) The a	phenome	non of b	tance cannot be biomagnification FDDT disturbs	on is we	ll knov	vn for 2	, 4-D a	and mercury		
(a.)	I and III	I			(b.)	II and IV					
(c.)	I and II				(d.)	III and IV					
(43.)	The accelerated aging process of water bodies by pollutants is known as										
(a.)	cultural	eutrophic	ation		(b.)	algal	bloom				
(c.)	biomag	nification			(d.)	none	of thes	e			
(44.)	given bel	olumn-I w low.	ith	Column-II			ne corre	ect opt	ion from th	e codes	
	Column-I				Colu	ımn-II					
	(A) Air (P Act	revention a	nd Cont	rol of Pollution)	(1) 1	1986					
	(B) Enviro	onment (Pro	otection)	Act	(2) 1	1974					
	(C) Amen Pollution)		revention	n and Control of	(3) 1	1981					
	(D) Water Act	(Preventio	n and C	ontrol of Pollution	on) (4) 1	1987					
	Codes A	В	C	D							
(a.)	3	1 4	2		(b.)	4	3	2	1		
(c.)	1 2	2 3	4		(d.)	2	4	1	3		
(45.)		_		nparts a distinc s in increasing					er body.		
(a.)		is correct e		on are true and ion of	(b.)		on is no		l Reason are orrect explar	*	
(c.)	Assertio	on is true,	but Rea	son is false.	(d.)	Asse	rtion is	false, l	but Reason i	s true.	
(46.)	successiv	e trophic	levels.	ion refers to							
	metabolis	sed or exc	reted.								
(a.)		is correct e		on are true and ion of	(b.)	Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.					
(c.)	Assertio	on is true,	but Rea	son is false.	(d.)	Assertion is false, but Reason is true.					

(47.)	Assertion: Eutrophication of a water body occurs only by human activities.							
	Reason: It discourages the growth of aqua	atic org	ganisms.					
(a.)	Both Assertion and Reason are true and Reason is correct explanation of Assertion.	(b.)	Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.					
(c.)	Assertion is true, but Reason is false.	(d.)	Assertion is false, but Reason is true					
(48.)	All the waste that we generate is							
(a.)	bio-degradable	(b.)	recyclable					
(c.)	non-biodegradable	(d.)	all of these					
(49.)	The non-biodegradable pollutants are usua	ally pro	oduced by					
(a.)	nature	(b.)	humans					
(c.)	natural disasters	(d.)	excessive use of resources					
(50.)	The substance that takes longest time for l	biodegr	radation is					
(a.)	cotton	(b.)	paper					
(c.)	bone	(d.)	jute					

ANSWER

(1.)	b	(2.)	d	(3.)	b	(4.)	b	(5.)	a
(6.)	b	(7.)	a	(8.)	b	(9.)	c	(10.)	a
(11.)	b	(12.)	a	(13.)	b	(14.)	c	(15.)	b
(16.)	d	(17.)	a	(18.)	b	(19.)	b	(20.)	b
(21.)	c	(22.)	a	(23.)	c	(24.)	d	(25.)	d
(26.)	b	(27.)	a	(28.)	a	(29.)	c	(30.)	d
(31.)	a	(32.)	d	(33.)	d	(34.)	b	(35.)	c
(36.)	b	(37.)	a	(38.)	b	(39.)	d	(40.)	d
(41.)	b	(42.)	c	(43.)	a	(44.)	a	(45.)	c
(46.)	a	(47.)	d	(48.)	d	(49.)	b	(50.)	С

EXPLANATION

- (1.) (b.) Any undesirable change in physical, chemical or biological characteristics of air, land, water or soil is known as pollution. The agents that bring about such undesirable changes are called pollutants.
- (2.) (d.) Air pollutants bring undesirable changes in air. They cause injury to all living organisms. They reduce growth and yield of crops as well as premature death of plants. These air pollutants deleteriously affect the respiratory system of organisms.
- (3.) (b.) Electrostatic precipitator is used to remove particulate matter present in the exhaust from a thermal power plant. It can remove over 99% particulate matter.
- (4.) (b.) Electrostatic precipitator has electrode wires that are maintained at several thousand volts. They produce a corona that releases electrons. These electrons attach to dust particles giving them a net negative charge. The collecting plates are grounded and attract the charged dust particles. An electrostatic precipitator can remove over 99% particulate matter present in the exhaust from a thermal power plant.
- (5.) (a.) According to Central Pollution Control Board (CPCB), the greatest harm to human health is caused by the particulates of size 2.5 micrometers or less in diameter. These are inhaled deep into the lungs. They cause breathing and respiratory symptoms, irritation, inflammation and damage to the lungs and premature deaths.
- **(6.) (b.)** Catalytic converters are fitted into automobiles for reducing emission of poisonous gases. These have expensive metals as catalysts. As the exhaust passes through the catalytic converter, unburnt hydrocarbons are converted into carbon dioxide and water. Likewise, carbon monoxide and nitric oxide are changed into carbon dioxide and nitrogen gas, respectively.
- (7.) (a.) Catalytic converters change unburnt hydrocarbons into carbon dioxide and water. These are fitted into automobiles for reducing emission of poisonous gases. They have expensive metals for the same. Thus, they help in reducing the air pollution.
- (8.) (b.) Catalytic converters have platinum-palladium and rhodium as the catalysts. These are fitted into automobiles. These catalytic converters reduce emission of poisonous gases from automobiles. As the exhaust is passed through the catalytic converter, unburnt hydrocarbons are converted into CO₂ and H2O. Similarly, CO and nitric oxide are changed to CO₂ and N₂ gas, respectively.
- (9.) (c.) In India, the Air (Prevention and Control of Pollution) Act, 1981, was amended in 1987. It was amended to include noise as an air pollutant. Noise pollution is undesired high level of sound.
- (10.) (a.) Pollution undesirable change in air, land, water or soil, Environment (Protection) Act 1986, Electrostatic precipitator Removes particular matter, Catalytic converter Reduces emission of poisonous gases from automobiles.
- (11.) (b.) The loudness of 80 dB sound can be withstood without discomfort. A brief exposure to extremely high level of sound may damage ear drums, thus permanently impairing hearing ability. Noise also causes sleeplessness, increased heartbeat, altered breathing pattern.
- (12.) (a.) The major source of noise pollution is transport system. Noise pollution is the undesired high level of sound. The loudness of 80 dB is safe. A brief exposure to higher level of noise is harmful and can cause many disorders.
- (13.) (b.) The material used for sound proofing of recording studio and auditorium is styrofoam. It absorbs sound and thus facilitates proofing.
- (14.) (c.) Compressed Natural Gas (CNG) consists of methane. Its combustion produces fewer undesirable gases. CNG is cheaper than petrol and diesel. It cannot be adulterated like petrol or diesel. It burns more efficiently unlike petrol or diesel.

- (15.) (b.) The maximum indoor chemical pollution is caused by burning coal. It produces carbon which forms carbon dioxide or carbon monoxide. Both are harmful. CO₂ is a greenhouse gas while CO is harmful for human health. Room spray, mosquito coil are also pollutants but they affect in the long run.
- (16.) (d.) CNG is compressed natural gas. It mainly consists of methane. It is better than diesel because it burns more efficiently and produces fewer undesirable gases. It is cheaper than petrol and diesel. Unlike petrol and diesel, it cannot be adulterated.
- (17.) (a.) It is essential to remove sulphur from petroleum products because it produces large amount of oxides of sulphur like SO₂, SO₃. According to Euro III norms, sulphur be controlled at 350 ppm in diesel and 150 ppm in petrol. The goal is to reduce sulphur to 50 ppm in petrol and diesel.
- (18.) (b.) Catalytic converter Platinum-palladium, Amended Air (Prevention and Control of Pollution) Act–1987, CNG Compressed Natural Gas, NoiseUndesired high level of sound.
- (19.) (b.) Bharat Stage II is equivalent to Euro II norms. It is no more applicable in any city of India. Now a days Bharat Stage IV is applicable in almost all cities of India. Its purpose is to reduce vehicular pollution by reducing the emission of harmful gases in the exhaust.
- (20.) (b.) Electrostatic precipitator can remove over 99% particular matter present in the exhaust from a thermal power plant. It has electrode wires that are maintained at several thousand volts. They produce a corona that releases electrons. These electrons attach to dust particles, giving them a net negative charge. The collecting plates are grounded and attract the charged dust particles.
- (21.) (c.) Assertion is correct but reason is incorrect because 80dB sound can be heard without any discomfort. A sound of 150dB or more than that can damage the ear drums, thus permanently impairing hearing ability. Noise can cause sleeplessness, increased heartbeat, altered breathing pattern, thus considerably stressing humans.
- (22.) (a.) CNG (Compressed Natural Gas) is cheaper than petrol and diesel. It burns most efficiently in automobiles because very little of it is left unburnt. It cannot be adulterated like petrol and diesel. Thus, it helps in reducing vehicular pollution.
- (23.) (c.) The Government of India passed the Water (Prevention and Control of Pollution) Act in the year 1974. It was passed to safeguard our water resources. It is important to keep our water bodies clean because a number of diseases are caused by consuming contaminated water.
- (24.) (d.) Among the given impurities, suspended solids can be easily removed from the wastewater. These suspended solids include sand, silt and clay. The removal of colloids, bacteria and dissolved solids is comparatively difficult. The suspended solids can be removed by the sedimentation because
- (25.) (d.) Waste water usually contains three types of impurities, viz., suspended solids, colloidal material and dissolved material. Among these impurities, solids like sand and clay are easy to remove. The most difficult to remove are dissolved materials, e.g., nutrients.
- (26.) (b.) A lake which is rich in organic waste may result in mortality of fish due to lack of oxygen. Microorganisms involved in biodegradation of organic matter in the lake consume a lot of oxygen. As a result, there is a sharp decline in dissolved O₂. This causes mortality of fish and other aquatic organisms.
- (27.) (a.) Biochemical Oxygen Demand (BOD) may not be a good index for pollution of water bodies receiving effluents from petroleum industry. BOD is the amount of dissolved oxygen needed by aerobic biological organisms to break down organic material present in a given water sample at certain temperature over a specific time period.
- (28.) (a.) High level of BOD (Biochemical Oxygen Demand) indicates that water is highly polluted. Microorganisms involved in biodegradation of organic matter in the water bodies

- consume a lot of oxygen. It results in the sharp decline in dissolved oxygen. Therefore, the demand of biochemical oxygen increases.
- (29.) (c.) Among the given statements, statement (c.) is incorrect about algal bloom. It causes fish mortality. Therefore, there is a decrease in the number of fish present in water bodies. Microorganisms which degrade organic matter present in the water, consume a lot of oxygen. Therefore, BOD increases resulting in fish mortality.
- (30.) (d.) The green scums of fresh water bodies consists of blue-green algae and green algae. These are the indicators of pollution of water bodies. Their presence in the water bodies increases the Biochemical Oxygen Demand (BOD).
- (31.) (a.) The distinct colour of water imparted by algal blooms is due to their pigments. Algal bloom is excessive growth of planktonic algae. It occurs due to the presence of large amounts of nutrients in the water. They deteriorate the quality of water and cause fish mortality.
- (32.) (d.) Algal bloom and nuisance growth of aquatic plants in water bodies are usually due to increased concentration of phosphorus and nitrogen. These nutrients encourage the growth of aquatic organisms. They lead to an imbalance in the ecosystem dynamics of the water body.
- (33.) (d.) Rachel Carson's famous book 'Silent Spring' is related to pesticide pollution. It was published on September 27, 1962.
- (34.) (b.) Eichhornia is known as 'terror of Bengal'. This weed was introduced in India for its lovely flowers. However, it caused havoc by its excessive growth by causing block in waterways. It grows faster than our ability to remove it.
- (35.) (c.) The most problematic aquatic weed of the world is Eichhornia. It is commonly known as water hyacinth. It is also known as 'terror of Bengal'. It grows abundantly in eutrophic water bodies. This leads to an imbalance in the ecosystem dynamics of the water body.
- (36.) (b.) The disease that is not caused by consuming contaminated water is Hepatitis B. It is a serious liver infection caused by the Hepatitis B virus. It spreads by exposure to infected bodily fluids. Its symptoms are variable and include yellowing of the eyes, abdominal pain and dark urine.
- (37.) (a.) BOD Biological Oxygen Demand, Algal bloom Excessive growth of planktonic algae,

Terror of Bengal - Eichhornia crassipes,

Cholera – Water borne disease.

- (38.) (b.) An increase in concentration of the toxicant at successive trophic levels is known as biomagnification. This occurs because a toxic substance accumulated by an organism cannot be metabolised or excreted. It is passed on to the next trophic level.
- (39.) (d.) Among the given substances, mercury and DDT can undergo biomagnification. It refers to increase in concentration of toxicant at successive trophic levels. The toxic substance is not metabolised or excreted by the organism. It is passed on to the next higher trophic level.
- (40.) (d.) The highest DDT concentration in aquatic food chain shall occur in seagull. In the food chain, concentration of DDT increases at successive trophic levels, e.g., if it starts at 0.003 ppb in water, it can ultimately reach 25 ppm in fish-eating birds through biomagnification. Water (DDT 0.003 ppb) \rightarrow Zooplankton (DDT 0.04 ppm) \rightarrow Small fish (DDT 0.5 ppm) \rightarrow Large Fish (DDT 2 ppm) \rightarrow Fish eating birds (DDT 25 ppm).
- (41.) (b.) The full form of DDT is Dichloro Diphenyl Trichloroethane. It is a colourless, tasteless and almost odourless crystalline chemical compound. It was originally developed as an insecticide. It shows many harmful impacts on the environment.
- (42.) (c.) Statements I and II are correct about biomagnification, while III and IV are incorrect. The phenomenon of biomagnification is wellknown for DDT and mercury. High concentration of DDT disturbs calcium metabolism in birds. It causes thinning of egg shell and their premature breaking, eventually causing decline in bird populations.

- (43.) (a.) The accelerated aging process of water bodies by pollutants is known as cultural eutrophication. The prime contaminants are nitrates and phosphates, which act as plant nutrients. They overstimulate the growth of algae.
- (44.) (a.) Air (Prevention and Control of Pollution) Act–1981, Environment (protection) Act–1986, Amended Air (Prevention and Control of Pollution) Act–1987, Water (Prevention and Control of Pollution) Act–1974.
- (45.) (c.) Algal bloom imparts a distinct colour to the water bodies due to the presence of pigments. Algal blooms increase BOD and cause mortality of fish.
- (46.) (a.) Biomagnification is increase in concentration of toxicants at successive trophic levels. The reason behind it is that toxic substances that remain accumulated in the organisms are neither excreted nor metabolised. They are passed on to the next trophic level. This phenomenon is wellknown for mercury and DDT.
- (47.) (d.) Eutrophication is the natural aging of a lake by nutrient enrichment of its water. Streams draining into the lake introduce nutrients such as nitrogen and phosphorus, which encourage the growth of aquatic organisms. Pollution speeds up the process of eutrophication. It is called accelerated or cultural eutrophication.
- (48.) (d.) All the waste that we generate is of three types: i.e., biodegradable, non-biodegradable and recyclable. Bio-degradable substances are degraded by microorganisms while non-biodegradable cannot be degraded. They need to be disposed very carefully.
- (49.) (b.) The non-biodegradable pollutants are usually produced by humans. These pollutants do not degrade easily, e.g., rubber, plastic, chemicals, etc. The non-biodegradable substances are usually synthesized. They do not occur naturally. They are harmful to the environment as they remain on earth for thousands of years without any degradation.
- (50.) (c.) The substance that takes longest time for biodegradation is bone. Rest of the substances. i.e., cotton, paper and jute take comparatively less time for degradation.

