

BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

ENVIRONMENTAL ISSUES

Multiple Choice Questions

1. The term smog was coined by

- A. Schmidt
- B. hertwig
- C. Benedon
- D. Des Voeux



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2. Maximum green house gas is released by which of the country

- A. U.S.A
- B. India
- C. france
- D. britian



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3. Which of following is the most dangerous metal pollutant of automobile exhaust?

- A. cadmium
- B. mercury
- C. copper
- D. lead



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4. Peeling of Ozone umbrella, which protects us from UV rays is called by

- A. CO2
- B. PAN
- C. CFCs
- D. Coal puring



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5. The formation of Ozaone hole is maximum over

B. africa				
C. Europe				
D. Antarctica				
Answer: (d)				
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6. The result of Ozone hole is				
A. Acid rain				

A. India

- B. uv radiation reaching the earth
- C. green house effect
- D. global warming



- 7. Green-house effect is due to
 - A. Carbon monoxid
 - B. carbondioxide

- C. Ammonia
- D. Phosphate



- 8. Green house effect refers to
 - A. Cooling of earth
 - B. Trapping UV rays
 - C. Warming of earth

D. Production of cereals

Answer: (c)



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9. The ture statement about green house effect' is that it is caused by

A. CO2 and O2

B. MnO2

C. CO2 and SO2

D. CO2, CFC, CH4

Answer: (d)



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10. Acid rain is due to the pollution of

A. pestiside

B. Dust particle

C. Carbon particles

D. SO2 and NO2



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11. Damage of (O3) i.e. Ozone layer is due to harmful effects

- A. Carbon dioxide
- B. sulpher dioxide
- C. Organic compound
- D. Chloroflurocarbon



- **12.** The amout of carbon dioxide in atmosphere after pollution will be
 - A. Equal to 0.03 perecent
 - B. less than 0.03 percent
 - C. Greater than 0.03 perecent
 - D. At the previously calculated



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13. Photochemical smog always contians

A. O3

B. Ch4

C. CO

D. PO4

Answer: (d)

14. The supersonic jets causes pollution by the thinning of

A. CO2 layer

B. SO2 layer

C. O2 layer

D. O3 layer

Answer: (d)



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15. The SO2 pollutin affect which of the cell component?

A. Nucleus

B. vacuole

C. Chlorplast

D. Mitochnodria

Answer: (c)



16. Which among the following is an air pollution indicator?

A. Algae

B. Lichen

C. Fungi

D. ferns

Answer: (b)



17. ¹	Green	house	effect	was	first	describe	d by
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- A. Suess
- B. Fishes
- C. Fourior
- D. Flemming



18. Which of the following components causes waer pollution

- A. Ozone
- B. Ammonia
- C. Phtyplankton
- D. industrial wastes

Answer: (d)



19. In minamata Bay of Japan, the animals which remained free from mianmata disease are

- A. pigs
- **B.** Rabbits
- C. Dog
- D. Cats

Answer: (b)



20. Minamata disease was caused by the consumption of

- A. Oyester with lots of pestiside
- B. Fish contaminanted with mercury
- C. Seafood containing lot of cadnium
- D. Sea food contaminanted with selenium

Answer: (b)



21. When a huge amout of sewage is dumped into reiver its BOD

- A. Increases
- **B.** Decreases
- C. sharply decreases
- D. Remain unchannged

Answer: (a)



22. The high amount of E.coli in water, is the indicator of

A. hardness of water

B. industrial pollution

C. sewage pollution

D. presence of chlorine in water

Answer: (c)



23. Pollution of soil is due to

- A. Reduction of Soil productivitiy
- B. Addition of waste on soil
- C. Excessive use of fertilizers
- D. all of these

Answer: (d)



24. The basic component of smog is

A. PAN

B. PBN

C. Ozone

D. all of these

Answer: (d)



25. Respiratory disorder occurs due to automobile exhaust because of

A. water

B. methane

C. Chlorine

D. Carbon monoxide

Answer: (d)



26. Depletion of Ozone layer causes

- A. Skin cancer
- B. Blood cacner
- C. Lung cancer
- D. Brian cancer



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27. Heat island are produced due to

- A. Air pollution
- B. Water pollution
- C. Land pollution
- D. all of these



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28. One of the importan effect of SO2 on plant

is

- A. Plasmolysis
- B. destruction of cell wall
- C. Destruction of chlorophyll
- D. Destruction of golgi body



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29. which of the folliwng causes lung diseases

A. Cotton mill

- B. Nuclear reasctors
- C. petroleum refineries
- D. Thermal power plants



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30. increased skin caner and higher mutation rates are generally due to

A. acid rain

- B. Carbod oxide
- C. Ozone depletion
- D. Biomagnification



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31. The msot hazardous metal pollutant of automobile exhaust is

A. Lead

- B. copper
- C. Mercury
- D. cadmium



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32. The two great industrial tragedies namely, MIC and chenobyl repestively accured whre and when?

- A. Bhopal 1980 Ukrain 1990
- B. hopal 1986, Ukrain 1988
- C. Bhopal 1984, Ukrian 1986
- D. Bhopal 1986, russia 1988



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33. which of the following metal is pollutant which causes sterility in human being

- A. Mercury
- B. Arsenci
- C. mangancese
- D. chromium



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34. the atmsphere pollutant which is not produced by automobile exhaust is

- A. fly ash
- B. Carbon monoxide
- C. Sulphur dioxide
- D. hydrocarbon gas



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35. The thermal pollution is caused due to the rise in the temperature of air and water to a harmful lavel . It is due to the heat from

- A. Industries
- B. Automobiles
- C. Power plants
- D. all of these



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36. D.D.T is

A. Not a pollutant

- B. An antibiotic
- C. A biodegradable pollutant
- D. A non degradable pollutant



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37. The phenomena, where the pollutants pass in higher concentration through the food cahin and accumulate to the maximum in the final consumer is called

- A. Eutrofication
- B. Biogeochemical sycle
- C. Biological magnification
- D. Biological degradation



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38. The nuclear power plant causes

A. theermal pollution

B. disosal of radioacitve waste

C. emissin of hazardous radiocative element

D. all of these

Answer: (c)



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39. which of the following isotopes is the mostt dangerous to Homo sapiens

- A. Casium-137
- B. iodine-131
- C. Phsphorus-32
- D. Strontium -90



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40. The noise created at the launching of space rocket measures

- A. 100- to 120 db
- B. 130 to 150db
- C. 160-180 dB
- D. 260-240 db



- **41.** kNock knee disease is due to
 - A. hormonal imbalane

- B. gnetical abnormality in males
- C. Thyrosine (amino acid) deficiency
- D. Excess fluoride concentration



- **42.** Phosphate pollution is caused by
 - A. Phosphate rock only
 - B. agricultureal fertilizers only

- C. sewage and phosphate rock
- D. Swage and agriculture fertilizes.



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43. which of the following is related with noise pollution

A. Buses

B. trains

C. aeropanes

D. all of these

Answer: (d)



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44. CO when mixes with haemoglobin in blood to produce

A. CO2

B. COHb

C. CaOH

D. CIO

Answer: (b)



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45. The rocket launching explosion is an example of

A. soil pollution

B. air ollution

- C. Water pollution
- D. Noise pollution



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46. In the coming years skin related disorder will be more common due to

- A. Pollutant in air
- B. use of detergents

- C. Water pollution
- D. Depletion of ozone layer



- **47.** Ozone depleton in stratosphere shall result in
 - A. Forest fire
 - B. Increased incidence of skin cancer

- C. Global warming
- D. None of the above



- **48.** ultraviolet radiationfrom sunligh causes a reaction that produce
 - A. Fluorides
 - B. Carbon monoxide

- C. Sulphur dioxide
- D. Ozone



- **49.** Noise pollution is measured in
 - A. hertz
 - B. Fathoms
 - C. nanometer

D. Decible

Answer: (d)



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50. Lead is

- A. Air pollution
- B. Soil pullutant
- C. Both a and b
- D. Noise pollution



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- 51. Taj mahal many be destroyed by
 - A. Flood in Yamuna
 - B. temperature
 - C. Air pollution from mathura refinery
 - D. Destructive to O3

Answer: (c)

52. Carbon monoxide is harmfull to human being as it is

A. carcinogenic

B. Antagonistic to CO2

C. whith higher affinity for haemoglobin

D. Destructive to O3

Answer: (c)



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53. Which will not cause atmospheric polution

A. SO2

B. CO2

C. CO

D. H2

Answer: (d)



54. Pollution is controlled by

- A. banning atomic balst
- B. use of electrically operated equipments
- C. sewage treatment
- D. all of these

Answer: (d)



55. High DDT accumulation shall occur in

- A. phytoplankton
- B. Seagulls
- C. Crab
- D. Eel

Answer: (b)



56. Drained sewage has BDO

- A. More than that of water
- B. less than that of water
- C. Equal to that of water
- D. None of these

Answer: (a)



57. Lichens indicate pollution by

- A. O3
- B. SO2 layer
- C. NO2
- D. CO

Answer: (b)



58. Taj Mahal is threatened by pollution of

- A. Chlorine
- B. sulphur dioxide
- C. Hydrogen
- D. Oxygen

Answer: (b)



59. World environment day is

- A. 43889
- B. 5th june
- C. 7th august
- D. 10th april

Answer: (b)



60. measurment of rate of oxygen utilization by a unti volume of water over a period of time is to measure

- A. Fermentation
- B. Biomass generation
- C. Biosynthetic pathway
- D. Biochemical oxygen demand

Answer: (d)



61. Ozone day is

- A. january 30th
- B. septembher 16
- C. april 21th
- D. december 25 th

Answer: (d)



h / campanante at emag i	_
62. components of smog i	S

A. PAN

B. PBN

C. Both a and b

D.

Answer: (b)



63. cadium	pollution	is ass	sociated	with

- A. Anaemia
- B. Itai-Itai
- C. Minamata
- D. Pneumonoconiosis



-	_		•	•	
64.	Ozone	hole	IS	maximum	over

A. Europe

B. antarctica

C. India

D. africa

Answer: (b)



65. Pollution indicator plants are

- A. Are resitant to pollution
- B. Can puritfy the atmosphere
- C. Are very sensitive to pollutant
- D. Can indicate onset of rain

Answer: (c)



66. Warm ocean surge or perucurrent that recurs after 5-8 years in East pacific along south-America is

- A. Elneno
- B. Aye Aye
- C. Mangox
- D. Gull stream

Answer: (b)



67. environmental protection act was passed in

- A. 1968
- B. 1986
- C. 1981
- D. 1975

Answer: (b)



68. which of the follwing is not used for disinfection of drinking water

- A. phenyl
- B. chlorine
- C. ozone
- D. chloramine

Answer: (a)



69. A mutagenic pollutant is

A. Hydrocarbons

B. NO2

C. Resins

D. Organophosphate

Answer: (a)



70. A non -biodegradable pollutant is

- A. Cowdung
- B. DDT
- C. Green leaves
- D. Newsprint

Answer: (b)



71. which one of the folloiwng will not control particulate pollutants

- A. filter
- B. scrubber
- C. incinerator
- D. electrolstatic precipitator

Answer: (c)



72. a chemical used in refergerator & air conditioners & is a source of e

- A. Feron
- B. Benzene
- C. CH4
- D. Benzopyrene

Answer: (a)



73. Gastrointestinal problems are caused by

- A. Sound pollution
- B. Acid pollution
- C. Water pollution
- D. soil pollution

Answer: (c)



74. UV -radiation from sunligh produces

A. Fluorides

B. ozone

C. SO2

D. CO

Answer: (b)



75. Anthracosis is caused by

- A. Coal dust
- B. silica
- C. Iron dust
- D. Cane fibre

Answer: (a)



76. which one is non-biodegradable

- A. Sewage
- B. Live-stock waste
- C. market garbage
- D. DDT

Answer: (d)



77. Day time sound level in silent zone is

- A. 70dB
- B. 50 dB
- C. 20dB
- D. 40dB

Answer: (b)



78. One of the following acts as secondary pollutants

- A. CI2
- B. Br
- C. HNO3
- D. NO2

Answer: (a)



79. Which of the following is a green house gas

A. Oxygen

B. Water vapours

C. methane

D. Carbon

Answer: (c)



80. Which element is the cause of itai-itai

A. Cd

B. Hg

C. As

D. Pb

Answer: (a)



	81.	which	is	more	hazardous	to	human	health
--	-----	-------	----	------	-----------	----	-------	--------

- A. humulin
- B. Rotenone
- C. DDT
- D. Pyrethrum

Answer: (c)



82. Miximum Ozone depletion is caused by

A. CH4

B. CO2

C. SO2

D. CFC

Answer: (d)



83. which one of the following pairs of gases are the major cause fo green hosue effect'

- A. CO2 & N2O
- B. CO2& O3
- C. CO3 &CO
- D. CFCs & SO2

Answer: (a)



84. Measuring BOD is a method used for

A. Workign out the efficiency of RBCs, about their capacity to cary O2

B. Measuring the acitvity of yeast

C. Estimating the amount of organic matter in sewage water

D. Woriking out theefficieency of oil driven automobile engines

Answer: (c)



85. The Air -Prevention & Control of pollution act came into force in

A. 1981

B. 1985

C. 1990

D. 1975

Answer: (a)



86. In chamoli district of Garhwal Himalyys the chipko movement was initiated in

- A. 1982
- B. 1972
- C. 1970
- D. 1975

Answer: (b)



Choose More Than One Correct Answers

- 1. Which of the follwiong are biodegradable?
 - A. Glass
 - B. Paper
 - C. Cloth
 - D. Plastic

Answer: (b),(c)



2. Prmary air pollutants incluede

A. H2S

B. CO2

C. PAN

D. CO

Answer: (a),(b),(d)



3.	Green	house	gas	do	not	incl	ude
J .	OI CCII	HOUSE	843	au	1100	11101	auc

A. CH

B. Argon

C. PAN

D. CFC

Answer: (b),(d)



4. which of these can measure pollution of water body

A. B.O.D

B. C.O.D

C. D.O

D. Colour

Answer: (a),(b),(c)



5. Which of these persist in the nature undergo mangification

A. Manganese

B. Iron

C. Arsenic

D. DDT

Answer: (c),(d)



6. which of the following was movements taken against felling of tree?

A. Satyagraha movement

B. chipko movment

C. Bishnoi movement

D. silent valley

Answer: (b),(c),(d)



7. main leader	s of chipKo ı	movement were
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- A. Goura devi
- B. Amrita devi
- C. Sunderlal Bahuguna
- D. Dasholi gram samiti

Answer: (a),(c)



8. which of the following are the protocoLs undertaken by UNEP?

- A. Montreal
- B. Veitanam
- C. Kyoto
- D. Venezuela

Answer: (a),(c)



A. Cholera
B. Poliomyelitis
C. viral fever
c. vii di Tevei
D. Januardian
D. Jaundice
Answer: (b),(c)
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10. which of the following are wetlands?

9. which is not a water borne disease?

- A. Palak
- B. Chilka
- C. Sundarbans
- D. dhaulpur

Answer: (a),(b),(c)



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Fill In The Blanks

1. Automobiles are the largest source of ____ pullution in cities.



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2. Secondary treatment for polluted water are

___ and acitivated sludge method.



3. Afforestation can check the advancement of
·
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4. radiations have high penetrability.
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5. DDT is a serious pollutant as it is a pollutant and undergoes

6. _____ plant has become a troublesome weed in agricultural field.



7. ____ are mojor Aerosol pollutant present in jet air air craft emmision.



8. itai Itai disease is Caused by pollution.
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9. COD stands for
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10. Minamata disease was first detected in
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11. the DDT is a ____ pollutants .

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12. The electric power paint cause ____ pollution.



13. ___ is located at Nagpur.





14. The aquatic wee ____ can reduce water pollution by 75%



15. The liquied diquied dispersion of aerosals is called____.



16. Maximum emission of CO occurs by burning of ____.

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17. ____ of USA was once named as smokey city.



18. A heavy metal pollutant released in automobile exhuast is ____.



19. Cadmium pollution caused____ disease in japan .



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20. the intensity of whisper is aournd _____decible.



Mention True And False

1. Smog causes craking of rubber.



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2. The quality of top soil lost maximum in india



3. Inexpensive defluouridation techniques have been developed in india



4. Growth of lichens on tree are promoted by air pollution



5. Lichens serves as pollution indicator.

6. cyclone collector are used to remove larger particle.



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7. Maximum noise pollution is residential area is due to traffic.



8. Indian agriculture soil gets polluted mainly by pesticide.



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9. The blue baby syndrome or cyanosis is caused du to pollution by cyanides.



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10. First Earth summit was helf New Delhi.





11. The pesticide caysecongenital problems.



12. The CO2 causes physial death due to oxygen starvation.



13. acid rain caused due to oxidation of nitrogen and sulphur.



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14. Ozone destroye the crops of potato, alfa alfa and spinach.



15. The Uv and the Ir rays are ionising radiation.



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16. The photochemical somg contins PAN and ozone.



17. The second major nuclear reactors accident occurred at the miles Island of USA.



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18. the solid disperesion of aerosols is called



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19. Sonic booms are caused by jet planes.



20. Te Bhopal gas tragedy occurred in 1986.



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Very Short Answer Type Questions

1. What are the five main type of pollution?



2. Name the major surface waer pollutant from runoff and bathroom water.



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3. What photochemical oxidants pollute air?



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4. What is PAN?



5. what are aerosoles?



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6. which pollutan contributed by aeroplanes?



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7. How can SO2 pollution of air be chaecked?



8. why are tall chimneys recommended for factories?



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9. what is BOD?



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10. Give the sources of pathogen into water.

11. Name the type of pollutant according to their natural disposal.



12. Mention th type of pollutants according to their natural disposal.



13. what is eutrophication?

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14. what do mean by nuclear fallow?



15. which is greater air pollutant, man or nature



16. Name the source of pathogen in water.



17. what is electrically chargin pollutant particles and collecting them on an opposite chage called?



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18. Give two example of radiocative nucleotide.



19. What are mobile combustion sources?



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20. name two types of wetland.



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21. name two sources of thermal pollution.



22. Give the cause of Minamata and Itai itai disease.



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23. Name the most harmful pesticied.



24. what are ODS?



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25. what si ElNino?



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26. Expand the term S.P.M.



27. what are aerosls?



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28. Who coined the term acid rain



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29. what are physical pollutant of water?



30. Name the most serious water pollutant



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31. define eutrophication.



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32. what are the main causes of thermal pollution?



33. what is the ill effect of thermal pollution?



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34. which disease is associated with tht eating of Hg-contaminated fishes?



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35. Give the cause of Knock knee disease.



36. where is NEERI located?



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37. Name the disease associated with cadmium pollution.



38. which organism is used to maeasur of sewage contamination in water bodies?



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39. give the term for the incerase in the amount of toxic substance in successive torphic levels of a food chains?



40. Name two pollutant which undergo biological magnification.



41. name the great environmentalist who is also a magsaysay award winner.



42. what is the ill -effect of D.D.T.?



43. what is sludge?



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44. name the treatment of pollutated water, salt like nitrates and phosphates.



45. what are indices of water pollution.



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46. give full form of BOD.



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47. what is the BOD of a weak organic waste water body?



48. what is biotic index?



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49. What are the sources of phosphate pollutio of water?



50. which of the following has higher value: COD or BOD?



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Short Answer Type Question

1. Differentiate between Biodegradable and non biodegradable pollutants.



2. Name various air pollutant soruces.



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3. Name major air pollutant.



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4. What is acid rain? Who coned the term acid rain?



5. What are photochemical oxideants? Name two phtochemical oxideant. Give their ill effect.



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6. give the sources of carbon monoxide and their effect.



7. What are the ill effects of C.F.C?



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8. what is green house effect?



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9. Name the soruces of water pollution.



10. What is thermal pollutionand stae its ill effect?



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11. Name two water pollution ralated desease cuased by haevy elements.



12. give the ill effects of nitrated and phosphats of Fertillzers.



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13. Define biomagnification. Name tow chemicals which show biomagnification.



14. define Deforestatio. What are the causes of deforestation in india.



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15. Differeciate between negative soil pollution and positive soil pollution.



16. Briefly illustrae the ill effects of radioactive pollution.



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17. What in nuclear fall out? List some radioisotopes present in th nuclear fallout?



18. What is the unti of noise pollution? State two ill effects of it.



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19. What is photo chemical somg? How does somg effect the biological world?



20. Distinguish btween point and non point sources of waster pollution.



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21. State the consequence of stratopheric ozone depletion,



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22. What is pollution?



23. What is grren hosue effect?



24. what is global warming



25. what is acid rain



26. what is photochemical somog



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27. what is SPM?



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28. What is air pollution?



29. what is primary pollutant?



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30. what is secondary pollutant?



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31. wha ti water pollution?



32. Mention two control process of water pollution?



33. Name four water orne diseases?



34. What is pollution?



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35. what is sound pollution?



Watch Video Solution

36. mention three harmful effects of acid rain?



37. what is decible?



Watch Video Solution

38. Name foru sources of noise pollution?



Watch Video Solution

39. what is radioactive pollution



40. what is thermal pollution? **Watch Video Solution** 41, what is Ozone hole? **Watch Video Solution** 42. what is Farth Summit? **Watch Video Solution**

43. Briefly describe about the Silent Valley movement.



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Long Answer Type Question

1. What is environemntal pollution? Can pollution of the environment occur without Human inrtrvension.



2. Name the major atmospheric pollutant and their source.



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3. How do the following effect the land resource. (a) deforestation (b) safety way for using Agrochemical (c) III effects to land by pesticides (d) By using excessive amount of chemical fertilizer € compost manure.



4. Explain the following: (a) Green house effect (b) Ozone hole



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5. What is meant by ozone Hole do the CFCs is ozone depleting substance



6. Write Explanatory notes on (a) effect of air pollution on vegetation(b) BOD (c) thermal pollution (d) radioactive disposal.



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7. Write in brief the ill effect of air pollution.



8. Account for the cause of smog, acid rain, and green house effect. How do they effect us?



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9. what is scrubbur?



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10. What is nuclear fallout and state the ill effect of it.

11. Define biomagnification ? Discuss the biomagnification of DDT and its ill effect.



12. Why are nuclear power stations considere as a threat to ecological security.



13. What is the importane of wet-land? Briefly state about the Eutrophication.



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14. Describle about the chipko Movement,
Dasholi gram sarajya mandal (DGSM)
movement and Amrita devi Bishnio Movement.



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Joint Entrance Mock Test

- **1.** The eye of octopus and eye of cat show fifferent patterns os structure, yet they perform similar functio. This is an example of
 - A. Analogous organs that have evolved due to divergent evolution.
 - B. Homologous organs that have evolved due to convergent evolution
 - C. Homologous organs that have evolve due to divergent evolution.

D. analogous organs tht have evolved due to convergent evolution.

Answer: (d)



2. Selecti the correct statement with respect to locomotion in humans

A. The joint between adjacent vartabra is a fibrous joint

- B. A desceaded lovel of progesterone cause osteoporosis in old people .
- C. Accumulation of uric acid crystals in joints causes their inflammation.
- D. The vertebral columan has 10 throracis vaertabrea.

Answer: (c)



- 3. A phosphoglycerid is always made up of
 - A. A saturated or unsaturated fatty acid esterifie to a phosphate group which is also attached to a glycerol molecule.
 - B. Only a saturated fatty acid esterified to a glycerol molecule to which a phosphate group is also attached
 - C. Only an unsaturaed fatty acid esterified to a glycerol molecule to which a

phosophate groupis also attached.

D. A saturated or unsaturaed fatty acid esterifie to a glycerol milecule to which a phosphate group is also attached.

Answer: (d)



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4. Periosperm differs from endosperm in

- A. Its formation by fusion of secondary nucleus with several sperma
- B. Being a haploid tissue
- C. having no reserve food
- D. Being a diploid tissue.

Answer: (d)



5. A sedentary sea anemone gets attached to the shell lining of hermit crab. The association is

- A. Amensalism
- B. Ectoparasitism
- C. Symbiosis
- D. Commensalism

Answer: (d)



6. The cell mediated immunity inside the huma body is carried out be

- A. Erythrocytes
- B. T-lymphocytes
- C. B-lymphocytes
- D. Thrombocytes

Answer: (b)



7. Which of the following are likely to be present in deep sea water?

A. Saprophytic fungi.

B. Archaebacteria

C. Eubacteria.

D. Blue-green algae

Answer: (c)



8. One of the representatives of phylum arthropoda is

- A. Flying fish
- B. Cuttlefish
- C. sliver fish
- D. Puffer fish

Answer: (c)



A. Ovule			
B. Embryo sac			
C. Fruit			
D. nucellus			
Answer: (a			
Watch Video Solution			
10. Kyoto Protocol was endorsed at			

9. magasporangium is equivalent to

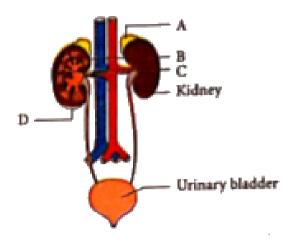
- A. CoP-4
- B. CoP-3
- C. CoP-5
- D. CoP-6

Answer: (b)



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11. Figure shows human urinary system with structures labelled A to D. Selecti option which correctly identifies them and give their characteristics and /or functions.



- A. D-Cortex -outer part of kidney and do not contian any aprt of nephrons.
- B. A-Adrenal galnd-located at the anterior aprt of kidney. Secreate catecholamines which stimulate gleycogen breakdown.

C. B-Pelvic broad funnel shaped space inner to hilum, directly connected to loops of Henle.

D. C- medulla -inner zone of kindey and contains complete nephrons.

Answer: (b)



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12. In china rose the flowers are

A. Zygomorphic, epigynous with twisted aestivation

B. Actinomorphic, hyprogynous with twisted aestivation

C. Actinomorphic, epigynous with vavate aestivation

D. Zygomorphic, hyprogynous with imbricate aestivation

Answer: (b)



13. the Golgi complex plays a major role

A. In post translational modification of proteins and gleycosidation of lipieds.

B. I trapping the ligh and trasnforming it into chemical energy

C. In degesting protiens and carbohydrates

D. As energy trasnferrng organelles.

Answer: (a)

14. what external change are visible after the last moult of a cockroach nymph

A. Labium develops

B. mandibles becaome harder

C. Anal cerci develop

D. Both fore wings and hind wings develop

Answer: (d)



15. Isogamous condition with non-flagellated gametosis found in

A. Fucus

B. Chlamydomonas

C. spirogyra

D. Volvox

Answer: (c)



16. Transition state structure of the substrate formed during an enzymatic reaction is

- A. Permanent and stable
- B. transient but stable
- C. permanent but unstable
- D. transient and unstable

Answer: (d)



17. Select the answer which correctly matches the endocrine gland with the hormone it secretes and its funtion/deficiency symptom

Endocrine gland	Hormone	Function/ deficiency symptoms
(a) Corpus luteum (b) Anterior pituitary	Testosterone Oxytocin	Stimulates Spermatogenesis Stimulates uterus contraction during child birth
Endocrine gland	Hormone	Function/ deficiency symptoms
(c) Posterior pituitary (d) Thyroid gland	Growth Hormone (GH) Thyroxine	Oversecretion stimulates abnor mal growth Lack of iodine in diet results in goitre



- **18.** The colonies of recombinant becteria appear white in contreast to blue colonies of non recombinant bacteria beacuses of
 - A. Inactivation of glycodiase enzyme in recombinant bacteria
 - B. Non reecombinant bacteria containing betagalactosidase
 - C. Insertional inactivation of alphagalactosidase in nonrecombinant bacteria

D. Insertional inactivation of alphagalactosidase in recombinant becteria

Answer: (d)



19. Monocious plant of Chara shown occurrence of

- A. upper Cogonium and lower antheridium on the same plant
- B. Antheridiophore ad archegoniophore on the same plant
- C. Stamen and carpel on the same plant
- D. upper antheriduium and lowe oogonium on the same plant

Answer: (a)



20. Advantage of cleistogamy is

- A. Vivipary
- B. Higher genetic variability
- C. More vigorous offspring
- D. No dependence on pollinators

Answer: (d)



- **21.** The H-zone in the skeletal muscle fibre is due to
 - A. Extension of myosin filaments in the central portion of the A -band
 - B. The absence of myofibrils in the central portion of A -band
 - C. The central gap between myosin filaments in the A-band

D. The central gap between activ filaments extending through myosin filaments in the A-band.

Answer: (c)



22. Artificial insemination means

A. Introduction of sperms of a healthy donor directly into the overy

- B. tansfer of sperms of a healthy donor to a test tube containing ove
- C. Transfer of sperms of husband to a teest tube containing ova
- D. Artificial introcution os sperms of a healthy donor into the vagina

Answer: (d)



23. which group of animals belong to the same phylum?

A. sponge, Sea anemone, starfish

B. malarial parasite, amoeba, Mosquito

C. Eathworm Pinworm, Tapeworm

D. prawan scorpion, Locusta

Answer: (d)



24. Seed coat is not thin, membranous in
A. Gram

B. maize

C. Coconut

D. Groundnut

Answer: (c)



25. If two persons with AB blood groupt mary and have sufficiently large number of children these children could classfified as A blood group: Ab blood grooup B blood group in 1:2:1 ratio . Modern technique of protien electrophoresis reveals prosence of both A and B type proteins in ABblood group individuals, this is an example of

- A. Complete domiance
- B. Codominance
- C. Incomplete dominance

D. Partial domiance

Answer: (b)



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26. which of the following connot be detected in a developing foetus by amnicentesis ?

A. jaundice

B. klinefelter syndrome

C. sex of the foetus

D. Down syndrome

Answer: (a)



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27. th first stable product of fixation of atmospherice nitrogen in I leguminous plantss is

A. Gultamate

B. NO2-

C. Ammonia

D. NO3-

Answer: (c)



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28. A biologist studied the population of rats in a barn. He found that th avarae natality was 250, average mortality 240 immigration 20 and emigration 30. The netincrease in population is

- **A.** 0
- B. 10
- C. 15
- D. 5

Answer: (a)



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29. Secondary productivity is rate of fomation of new organic matter by

B. producer C. Parasite D. consumer Answer: (d) **Watch Video Solution 30.** Infection of Ascaris usually occurs by A. Mosquito bite

A. Decomposer

B. drinking water containing eggs of

Ascaris

C. eating imperfectly coodked pork

D. Tse-tse fly

Answer: (b)



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31. The tendency of population to remain in genetic equilibrium may be disturbed by

- A. lack of random mating
- B. random mating
- C. lack of magration
- D. lack of mutations

Answer: (a)



- **32.** A good producer of citric acid is
 - A. Saccharomyces

- B. Aspergillus
- C. Pseudomonas
- D. Clostridium

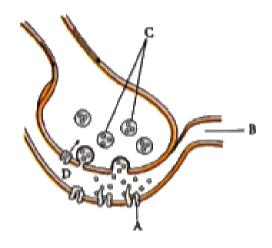
Answer: (b)



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33. A diagram showing axon terminal and synapse is given. Identigfy correctly at least

two of A-D



A. C-Neurotransmitter

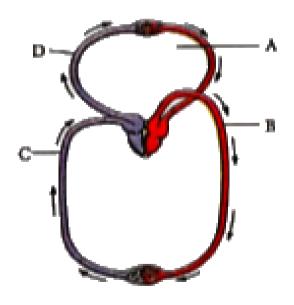
B. A-receptor C-Synaptic vesicles

C. B-Synaptic connectioon D-K+

D. A-Neurotransmitter B-Synaptic cleft

Answer: (b)

34. Figure show schematic plan of blood ciruclation in humans with labels A to D. Indentigfy the labe and give its function/s



to body parts, PO2= 95 mm Hg

A. D-Dorsal aorta -takes blood from heart

B. A-Pulmonary vein takes impure blood from body parts, Po2= 60 mm Hg

C. B-Pulmonary artery -takes blood from heart to lungs, PO2=90 mm Hg

D. C-Vena Cave -taks blood from body parts

to right auricle, PCO2= 45 mm Hg

Answer: (d)



35. Age of a tree can be estimated by

A. diameter of its heartwood

B. its height and girth

C. biomass

D. number of annual rings

Answer: (d)



36. The process by which organisms with different evolutionary history evolve similar phenotypeic adpatations in response to a common environmental challenge, is called

- A. Adaptive radiation
- B. natural selection
- C. Convergent evolution
- D. Non-random evolution

Answer: (c)



37. Interfascicular cambium develops from the cells of

- A. Pericycle
- B. Meduallary reays
- C. Xylem parenchyma
- D. Endodermis

Answer: (b)



38. During seed germination its stored food id mobilized by

- A. Giberellin
- B. Ethylene
- C. Cytokinin
- D. ABA

Answer: (c)



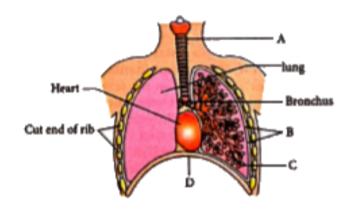
39. A stage in cell division is shown in the figure. Select the answer which gie correct indentification of the stae with ttis characteristics.



(a) Telophase	endoplasmic reticulum and nucleolus not reformed yet.
(b) Telophase	nuclear envelop reforms, golgi complex reforms.
(c) Late anaphase	chromosomes move away from equatorial plate, golgi complex not present.
(d) Cytokinesis	cell plate formed, mitochondria distributed between two daughter cells.



40. The figure shows a diagrammatic view of huma repiratory system with labels A, B C and D. Select the option which give scorrect identification oand main function and or characteristic.



A. D-lower end of lungs -diaphragm pulls it down during inspiration

B. A-trachea long tube supported by complete cartilaginous rings for counducting inspired air.

C. B-pleural membrance surround ribs on both sides to provide cushion against rubbing.

D. C-alveoli-thin walled vascular bag like structures for exhange of gases.

Answer: (d)



41. Meiosis takes place in

- A. Megaspore
- B. Meiocyte
- C. Conidia
- D. Gemmule

Answer: (b)



42. According to Darwin, the organic evolution is due to

A. Reduced feeding efficiency in one species due to the presence of interfering species.

B. Intraspecific competition

C. Interspecific competition

D. Competition within closely related species.

Answer: (c)

43. Which of the following critieria does nto pertain to facilitated trasport?

A. Uphill transport

B. Requirement of special membrane proteins

C. High selectivity

D. Transport saturation

Answer: (a)



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44. A major site for synthesis of lipids is

A. Nucleoplasm

B. RER

C. SER

D. symplast

Answer: (c)

- 45. Natural reservior of phosphorus is
 - A. Fossils
 - B. Sea water
 - C. Animal bones
 - D. Rock

Answer: (d)



46. which of the metabolites is comon to respiration mediated breakdown of fats, carbohydrates and proteins?

- A. AcetylE CoA
- B. Glucose-6-phosphate
- C. Fructose 1,6-bisphosphate
- D. Pyruvic acid

Answer: (a)



- **47.** Which one of the following processes during decompositioio is correctly described
 - A. leaching -water soluble inorganic nutrients rise to the top layers of soil
 - B. Fragmentation -Carried out by
 - organisms souch as earth worm
 - of a dark coloured substane humus

C. humification Lead to the accumulation

which undergoes microbjial action at a very fast rate

D. Catabolism-Last stop in the decomposition uder fully anaerobic condition.

Answer: (b)



48. If both parents are carriers for thalassemia, which is an autosomal recessive disorder, what are the chances of pregnancy resulting in an affected child?

A. 1

B. no chance

C. 0.5

D. 0.25

Answer: (d)



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49. which of the following statements is not true of two genes that show 50% recombination frequency?

A. If the genes are present on the same chromosome, they undergo more than one corossovers in every meiosis.

B. The genes may be on different chromosomes

C. The genes are tightly linked

D. The genes show independent

assortment

Answer: (c)



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50. One of the legal methods of birth control is

A. By a premature ejaculation during coitus

B. Abortion by taking an appropriate medicine

C. By abstaining from coitus from day 10 to

17 of the memstrul cysle

D. By having coitus at the time of day break

•

Answer: (b)



51. besides paddy fields cyanobacteria are also found inside vegetative part of

- A. Psilotum
- B. pinus
- C. Cycas
- D. Equirsetum

Answer: (c)



- **52.** which of the following are correctly matched with respect to their taxonomic classification
 - A. Sopiny anteater, sea urchin, sea cucumber -Echninoder mata.
 - B. Flying fish, cuttlefish, silverfish-Pisces
 - C. Centipede, millipade, spideer, scorpion-
 - Ionsecta
 - D. House fly, butterfly tsetsefly , silvrfish

 Insecta

Answer: (d)



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53. Variation in gene frequencies within populations can occur by chance rather than by natural selcetion. This is referred to as

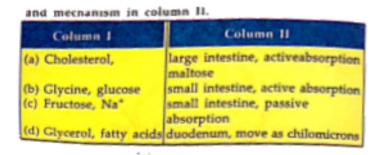
- A. Genetic load
- B. Genetic flow
- C. Genetic drift
- D. Random mating

Answer: (c)



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54. Select the correct match of the digested products in human given in column I with their absorption site and mechanism in column II.





55. Select the wrong statement

A. Chlamydomonas exhibits both isogamy and anisogamy and fucus shows oogamy.

B. isogametes are similar in structure, function and behaviour

C. Anisogametes differ either in structure, function or behaviour

D. In Oomycetes female gamete is smaller and motile, while male gamete is larger and non-motile.

Answer: (d)



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56. which mendelian idea is depicted by a cross in which the F1 generation resembles both the parents

- A. Co-dominacne
- B. Incomplete dominace
- C. Law of domiance
- D. Inhertitane of one gene

Answer: (d)

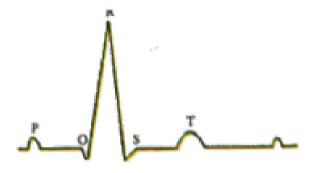


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57. The diagram given here is the standard

ECG of a normal person. The P-wave represents

the



- A. End of systole
- B. Contraction of both the atria
- C. Initiation of the ventricular contraction
- D. Beginning of the systole

Answer: (b)



58. which enzymes will be produced in a cell in which there is a nonsense mutation in the lac Y gene?

- A. lactose permease and transacetylase
- B. b-galactosidase
- C. Lactose permease
- D. Transacetylase

Answer: (b)



59. The msot abundant intracellular cation is

A. K+

B. Na+

C. Ca++

D. H+

Answer: (a)



60. Which one of the following is not the function of placenta?

A. Secretes oxytocin during parturition

B. Facilitates supply of oxygen and nutrients to embryo

C. Secretes estrogen.

D. Facilitates removal of carbon dioxide and waste material from embryo.

Answer: (a



61. In plant breeding programmes, the entire collection (of plants/seeds) having all the diverse alleles for all genes in a given crop is called

- A. Germplasm collection
- B. Selection of superior recombinants.
- C. Cross-hybridisation among the selected parents
- D. Evaluation and selection of parents.

Answer: (a)



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62. which one of the follwing is not a correct statement?

- A. Key is a taxonomic aid for identification of specimenns.
- B. herbarium houses dried, pressed and preserved plant specimens.

- C. Botanical gardens have collection of living plants for reference.
- D. A museum has collection of photographs of plants and animals.

Answer: (d)



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63. Which one of the following organelle in the figuere correctly matches with its function?



- A. Rough endoplasmic reticulum, protein synthesis
- B. Rough endoplasmic reticulum, formation of glycoproteins
- C. Golgi apparatus, protein synthesis

D. Golgi apparatus, formation of glycolipids

Answer: (a)



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64. Which of the following represent maximum number of species among global biodiversity?

- A. Mosses and ferns
- B. Algae
- C. Lichens

D. Fungi

Answer: (d)



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65. which of the following Bt crops is being grown in Indai by the farmers?

- A. Soybean
- B. Maize
- C. Cotton

D. Brinjal

Answer: (c)



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66. Read the following statements (i-v) ad answer the question which follows them.

A. In liverworts, mosses, and ferns gametophytes are freeliving.

- B. Gymnosperms and some ferns are heterosporous
- C. Sexual reproduction in fucus, voluvox and albugo is oogamous
- D. The sporophyte in liverworts in more elaborate than that in mosses

Answer: (d)



67. The essential chemical components of many coenzymes are

- A. Vitamins
- **B. Proteins**
- C. Nucleic acids
- D. Carbohydrates

Answer: (a)



68. Pigment -containgin membranous

extensions in some cyanobacteria are

- A. chromatophores
- B. heterocysts
- C. basal bodies
- D. pneumatophores

Answer: (a)



69. which one of the following statemets is correct?

A. Tapetum nourished the developing pollend

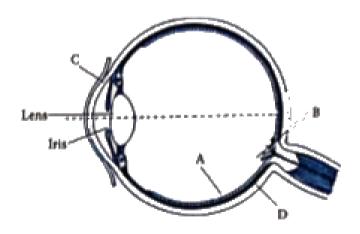
B. Hard outer layer of pollend is called intine

C. sporgeneus tissue is haploid

D. endothecium produces the micropores

Answer: (a)

70. Parts A,B,C and D of the human eys are shown in the diagram. Select the option which gives correct identification along with its functions/characterstisc



A. D-Choroid -its anterior part forms cilliary body.

B. A-Retina-contains photo receptors-rods and cones.

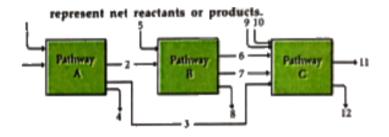
C. B-Blind sport has only a few rods and cones.

D. C-Aqueous chamber -reflects the ligh twhich does not pass through the lens.

Answer: (b)



71. The threeboxes in this diagram represent the three major boisynthetic pathways in aerobic respiration. Arrows represent net reactants or products.



A. FED^+ or $FADH_2$

B. NADH

C. ATP

D. H_2O

Answer: (c)



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72. The air prvention and Control of Pollution

Act came into force in

A. 1990

B. 1975

C. 1981

D. 1985

Answer: (c)



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73. Product of sexual reproduction generally generated

A. large biomass

B. prolonged dormancy

C. new genetic combination leading to variation

D. Longer viability of seeds

Answer: (d)



74. The characteristics and an example of a synovial joint in human is

Characteristics	Examples
(a) lymph filled between	gliding joint between carpals
two bones, limited movement	· · · · · · · · · · · · · · · · · · ·
(b) fluid cartilage between	knee joint
two bones, limited movements.	
(c) Fluid filled between	skull bones
two joints, provides cushion	The second second
(d) fluid filled synovial	joint between atlas and axis
cavity between two bones	



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75. Among bitter gourd mustared brinjal pumpkin china rose, lupin, cucumber sunnhemp, gram guava , bean, chilli, plumpetunia, tomato rose, withania, potato

onion, aloe and tulop how many plants have hypogynous flower?

A. Eighteen

B. Sex

C. Ten

D. Fifteen

Answer: (d)



76. A pregnant female delivers a baby who suffers from stunted growth, mental retardation, low intelligence quotient and abnormal skin. This is the result of

- A. over secretion of pars distalis
- B. Deficiency of iodine in diet
- C. Low secretion of growth hormone
- D. Cancer of the thyroid gland

Answer: (b)



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77. Which of the following is not correctly matched for the organism and its cell wall degrading enzyme?

A. Fungi-chitinase

B. bacteria-Lysozyme

C. Plant cells -Cellulase

D. Algae methylase

Answer: (d)

78. Menstrual flow occurs due to lack of

- A. Vasopressin
- B. Progesterone
- C. FSH
- D. Oxytocin

Answer: (b)



- 79. Global warming can be controlled by
 - A. Increasing deforestation, reducing efficiency of energy usage.
 - B. Reducing deforestation, cutting down use of fossil fuel.
 - C. Reducing reforestation, increasing the use of fossil fuel.
 - D. Increasing deforestation, slowing down the growth of human population.

Answer: (b)



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80. Which one of the follwing is not used for ex situ plant conservation?

- A. Boanical Gadens
- B. Field gene banks
- C. Seeds banks shifting cultivation
- D. shifting cultivation

Answer: (d)



- **81.** During sewage treatment, biogases are poroduced which include?
 - A. Hydrogensulphide, nitrogen, methane
 - B. Methane, hydrogensulphide, carbon dioxide
 - C. Methane, oxygen, hydrogensultphide

D. Hydrogensulphide, methane, sulphur dioxide

Answer: (d)



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82. The diagram shows an important concept in the genetic implication of DNA. Fill in the blank A to C.

franklin B. A-transcription B-replication C -james watson C. A-translation B-translation C-Erevin chargaff D. A-transcription B-translation C-Francis Crick Answer: (d) Vatch Video Solution

A. A-translation B-extension C-Rosalind

83. DNA fragments generated by the restriction endonucleases in a chemical reaction can be separated by

- A. Restriction mapping
- B. Centrifugationm
- C. Polymerase chain reaction
- D. Electrophoresis

Answer: (d)



84. The complex formed by a pair of synapsed homologous chromosomes is called

- A. Axoneme
- B. Equatorial plate
- C. Kinetochore
- D. Bivalent

Answer: (d)



85. The incorrect statement with regard to heamophillia is

A. A single protein involved in the clotting of blood is affected

B. It is a sex -linked disease

C. It is a recessive disease

D. it is a dominant disease

Answer: (d)



86. which of the following statements is correct in relation to the endocrine system?

- A. Releasing and inhibitory hormones are produced by the pituitary gland.
- B. Adenohypophysis is under direct neural regulation of the hypothalamus
- C. Organs in the body like gastrointestinal tract, heart kindey and liver do not

produce ay hormones.

D. Non -nutrient chemicals produced by the body in trace amount that act as intercellular massenger are known

Answer: (d)



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87. Lenticels are involved in

A. Photosynthesis

- B. Transpiration
- C. gaseous exchange
- D. Food transport

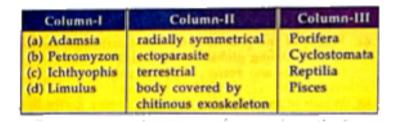
Answer: (c)



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88. Match the name of the animal (Column I), with one characteristics (column II) and the

phylum/class (column III)to which it belongs





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89. what is the correct sequence of sperm formation?

A. Spermatogonia, spermatocyte,

spermatid, spermatozoa

B. Spermatogonia, spermatocyte,

spermatozoa, spermatozoa

C. Spermatogonia, spermatocyte,

spermatozoa, spermatid

D. spermatogonia, spermatozoa,

spermatocyte, spermatid

Answer: (a)



- 90. Macro molecule chitin is
 - A. Simple polysaccharide
 - B. Nitrogen containing polysaccharide
 - C. Phosphorus containing poysaccharide
 - D. sulphur containing polysaccharide

Answer: (b)

