



परीक्षार्थी द्वारा भरा जावे ↓

परीक्षा का विषय विषय कोड परीक्षा का माध्यम
Biology 231 English
 स्टीकर तीर के निशान ↓ से मिलाकर लगायें

परीक्षार्थी द्वारा भरा जावे →

माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल
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 परीक्षा का दिनांक **17/03/2018**
 परीक्षा का नाम एवं परीक्षा केन्द्र क्रमांक की मुद्रा
हायर सेकेंडरी सेंट्रि परीक्षा 781111

एक एक दो चार तीन नौ पांच छः आठ

केन्द्राध्यक्ष/सहायक केन्द्राध्यक्ष एवं परीक्षक द्वारा भरा जावे →

क :- पूरक उत्तर पुस्तिकाओं की संख्या अंकों में **0** शब्दों में **X**
 ख :- परीक्षार्थी का कक्ष क्रमांक **03**
 ग :- परीक्षा का दिनांक **17/03/2018**
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हायर सेकेंडरी सेंट्रि परीक्षा 781111
 परीक्षक का नाम एवं हस्ताक्षर केन्द्राध्यक्ष/सहायक केन्द्राध्यक्ष के हस्ताक्षर

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जावे ↓

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जावे →

प्रमाणित किया जाता है कि मूल्यांकन के समय पूरक उत्तर पुस्तिकाओं की संख्या उपरोक्तानुसार सही पाई होलो क्राफ्ट स्टीकर क्षतिग्रस्त नहीं पाया गया तथा अन्दर के पृष्ठों के अनुरूप मुख्य पृष्ठ पर अंकों की प्रविष्टि एवं अंकों का योग सही है।
 निर्धारित मुद्रा : नाम, पदनाम, मोबाईल नम्बर, परीक्षक क्रमांक एवं पदांकित संस्था के नाम की मुद्रा लगाएं।
 उप मुख्य परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा

केवल परीक्षक द्वारा भरा जावे।			करें।
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योग पूर्व पृष्ठ

पृष्ठ 2 के अंक

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प्रश्न क्र.

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Que - 1

Answers :-

- (1) Peristaltic movements.
- (2) Gange Ganong's potometer.
- (3) F. Goreik.
- (4) Symbiosis (mutualism).
- (5) Changes.

Que - 2

Answers :-

- (i) 100 and 100.
- (ii) Heart.
- (iii) Abscissic Acid.
- (iv) Straight.
- (v) AIDS.

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योग पूर्व पृष्ठ

पृष्ठ 3 के अंक

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Que - 3

Ans 1. Magnesium (Mg & Fe also) is Chief Component of Chlorophyll.

Ans 2. Stapes (stirrup) is the smallest bone in human body.

Ans 3. Viscum, Monotropa are partial root parasite.

Ans 4. Botanical name of maize is Zea maysis. maysis.

Ans 5. When birth rate and death rate in population are equal then population becomes stable. This is called zero population growth.

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योग पूर्व पृष्ठ

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Que - 4

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PAN

- Secondary pollutant

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Vitamin K

- Blood clotting

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Acromegaly

- Growth Hormone

Decomposers

- Actinomyces.

Interferens

- Antigerm substance

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Que - 5

Ans

Inspiration

Expiration

①

The process of intake of air inside the lungs is called Inspiration.

The process of expelling out air from the lungs is called Expiration.

②

Diaphragm moves down and volume of lungs increases.

Diaphragm comes up and volume of lungs decreases.

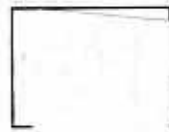
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योग पूर्व पृष्ठ

पृष्ठ 5 के अंक

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Que - 6

Ans

Asexual Reproduction - "The reproduction in which only one sex is involved is called Asexual Reproduction."

In asexual reproduction formation and fusion of gametes doesn't take place. Only single parent can give rise to many young ones.

Ex - Binary fission in Amoeba, Apomixis, Budd Budding etc.

Que - 7

Ans

Test tube baby - It is a method of in vitro fertilization in which fertilization of Ovum and Sperm take place in a test tube.

If a mother is unable to conceive then its egg is taken out from her body and sperm of husband/donor is injected into egg inside test tube. After fertilization

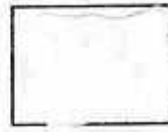
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at morula stage, zygote is implanted in uterus. Development of baby takes place in mother's womb. The baby so born is called Test tube baby.

Que - 8

B

S Ans

E

Biological Oxygen Demand - The amount of oxygen required by microbes to decompose organic matter present in unit area of water is BOD.

"For oxidation of organic matter the amount of O_2 required by microbes in unit area of water is called Biological oxygen demand."

High BOD suggests that water is highly polluted.

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योग पूर्व पृष्ठ

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Que - 9

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Element

Physiological role

(i)

Phosphorus
P

It is the main constituent of ATP, NADPH, $FADH_2$, nucleic acid, phospholipids. It provides energy to plant.

(ii)

Potassium
K

It helps in opening and closing of stomata. It plays role in photosynthesis and respiration. Act as enzyme activator.

(iii)

Calcium
Ca

It helps in cell wall formation in plants. It is constituent of middle lamella of cell. Leads to growth in cells.

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योग पूर्व पृष्ठ

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Que - 10

Ans Name of photosynthetic pigments are

① Chlorophyll a and Chlorophyll b
Chlorophyll a is most important. It is yellow green pigment.

② Carotenoids
They are orange-yellow pigment and have affinity for orange light.

③ Xanthophylls
They are orange-green pigment, shows affinity for orange, red light.

④ Phycobillins

Que - II

Ans * Population density - Number of individuals of a particular species in unit area is given time is called population

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योग पूर्व पृष्ठ

पृष्ठ 9 के अंक

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density.

Population Density

$$D = \frac{\Delta N}{\Delta A}$$

where ΔN = number of population
 ΔA = Unit area

⇒ Population density of India is 382 person per square km.

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* Sex ratio - Number of females present per thousand males in population is called sex ratio.

$$\text{sex ratio} = \frac{\text{Number of females} \times 1000}{\text{Number of males}}$$

⇒ Sex ratio of India is 929 females per thousand male.

* Death rate - Number of people dying per year in unit area of population is called death rate.

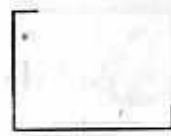
$$\text{Death rate} = \frac{\text{Deaths per year} \times 1000}{\text{Total population}}$$



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योग पूर्व पृष्ठ

पृष्ठ 10 के अंक

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Que - 12

Ans

Significance of Tissue Culture

1. Germplasm conservation - By Tissue Culture

It becomes convenient to conserve germplasm. It helps in conservation of rare species.

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2. Somatic hybridization - In tissue culture it is easy to produce hybrids of different plants. By fusion between different species, hybrids can be formed.

3. Economic importance - The plants of economic importance can be produced at a large scale and rapidly by this method.

4. Disease resistant plants can be formed and ~~the~~ plants can withdraw with more abiotic stress.

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पृष्ठ 11 के अंक

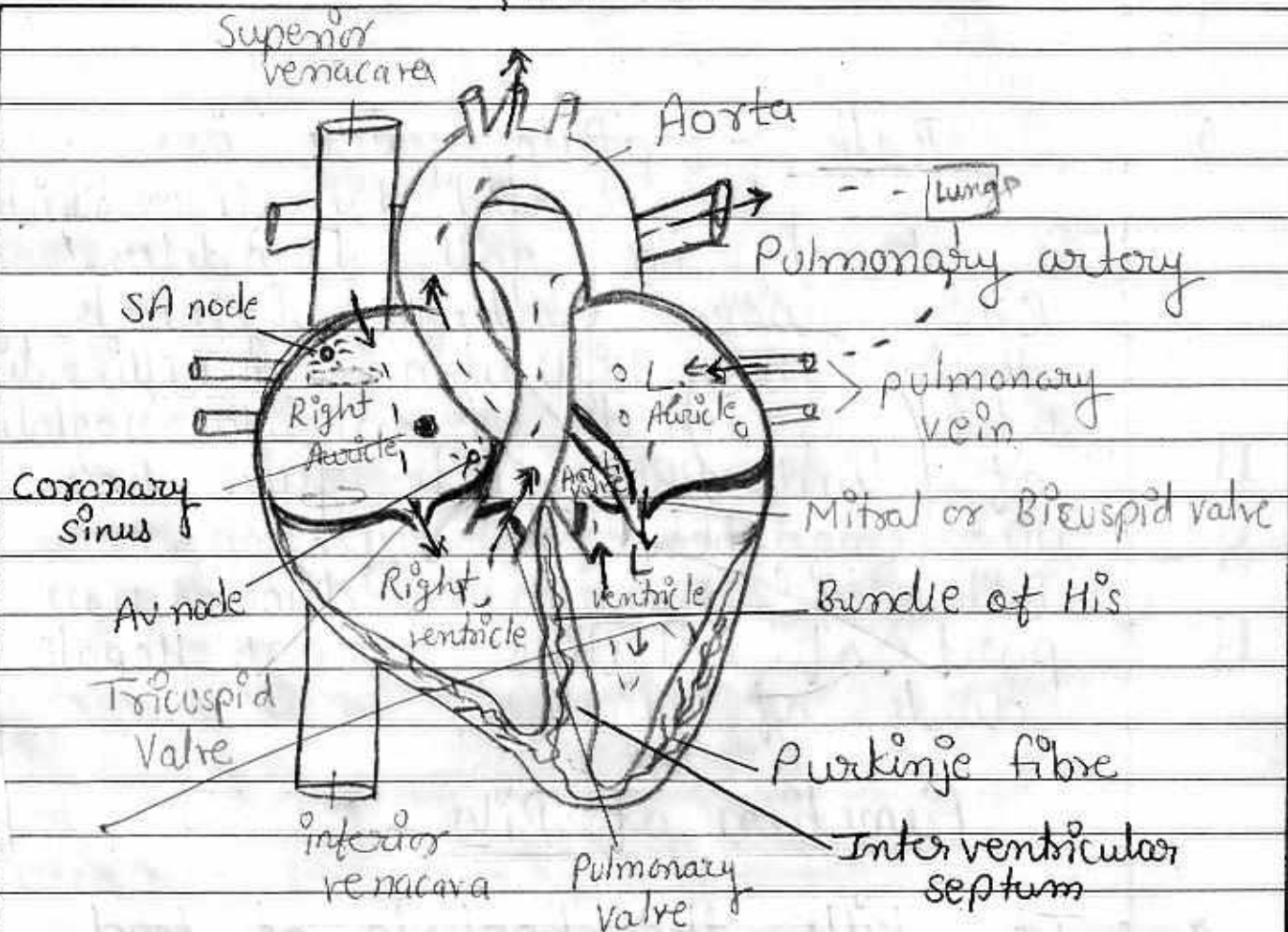
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Que - 13

Ans.



--- Blood route

Internal Structure of Heart.



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योग पूर्व पृष्ठ

पृष्ठ 12 के अंक

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Que - 14

Ans

Bile - Bile juice is

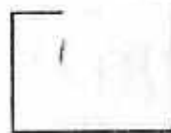
secreted by liver which is stored in gall bladder.

Bile juice contains pigments such as Billirubin and Billiverdin which is made from Haemoglobin of dead RBCs. Bile juice has no enzymes for digestion.

Bile comes to duodenum part of intestine through Hepatic ducts of liver.

Function of Bile -

- * It kills the bacteria of food.
- * Emulsifies fat.
- * Stimulate peristaltic movements.
- * Made medium of food Alkaline.
- * Activate enzymes of pancreatic juice.
- * Excrete half harmful pigments by faeces.



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पृष्ठ 13 के अंक



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Dental formula - Dental formula is given as a ratio of half of teeth in upper jaw by half of teeth in lower jaw.

$$\text{Dental formula} = \frac{\text{Half teeth of upper jaw} \times 2}{\text{Half teeth of lower jaw}}$$

Dental formula of Human
(Permanent teeth set)

$$= \frac{I, C, P, M \times 2}{I, C, P, M}$$

$$D.F. = \frac{2, 1, 2, 3}{2, 1, 2, 3} \times 2 = 32$$

(temporary teeth set)

$$D.F. = \frac{2, 1, 0, 2}{2, 1, 0, 2} \times 2 = 20$$

प्रश्न क्र.

Que - 15

Ans	Property	Spermatogenesis	Oogenesis
B S E	Definition	The process of formation of sperms in seminiferous tubules of Testis.	① The process of egg formation inside the ovary.
	Polar body	Polar body is not formed.	② 2 or 3 polar bodies are formed.
	Primary number	One primary spermatocyte gives rise to 4 sperms.	③ One primary oocyte gives rise to only one ovum.
	Continuity	It is a continuous process and completed in 74 days.	④ It is a discontinuous process.
	Location	It starts and finishes inside the testis.	⑤ It starts in ovary but finishes after fertilization in oviducts.

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पृष्ठ 15 के अंक

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प्रश्न क्र.

Que - 16

Ans

Noise pollution - Any sound which is intolerable is called noise and pollution caused due to such a high noise is termed as noise pollution.

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Sources of Noise pollution-

- * Horn of vehicles.
 - * Sounds from big factories and machines.
 - * Loudspeakers and instruments.
 - * Noise of crowded market.
 - * Aeroplanes and Jets producing noise.
 - * Sound from religious places.
 - * Noise from cinemas etc.
- All above mentioned points are sources of noise pollution.



प्रश्न क्र.

Harmful effects of noise pollution.

- It can cause deafness.
- Hearing ability might decrease.
- It causes hypertension, anxiety and irritability.
- Disease like insomnia can occur.
- Noise pollution is harmful for old buildings and monuments.
- Destroys the eggs of birds and fishes.

Que - 17

Ans

Intoxicant addiction is becoming huge problem day by day. It is diverting young generation from their goals. Some main reasons for intoxicant addiction are as follows

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योग पूर्व पृष्ठ

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① Curiosity - Young generation is curious to taste intoxicant. They do it as experimentation for life style and later become addicts.

② Peer pressure - If adolescents see their elders doing so, if it influences them also. Bad company of friends give such bad advice and pressurize friends to take drugs.

③ Misbelief - It is a 'misbelief' among young youths that drug increase mental ability so they get addicted to intoxicants. In high society people consider, taking drugs is cool.

④ Stress and failure - The main reason of addiction is stress and anxiety. Lack of love, failure in career, failure in relationships, lack of proper guidance in life make youth stressed.

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and to relax himself he starts using intoxicant.

Que - 18

Ans

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Five factors affecting rate of photosynthesis in plants are-

①

Carbon-dioxide - It is a raw material needed for photosynthesis. In spite of its low concentration in atmosphere (0.03%) it affects rate of photosynthesis directly. Increase in CO_2 increases photosynthesis.

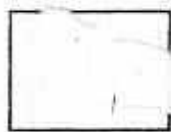
②

Water - Water is another raw material needed for photosynthesis. Presence of sufficient water is necessary. Decrease in water decreases the photosynthesis.

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③ Temperature - An optimum temperature is required for photosynthesis. It is best at temperature range of $15-30^{\circ}\text{C}$. Any change in temperature influences photosynthesis.

④ Sunlight - Sunlight is needed to start the process. Without sunlight light reaction of photosynthesis doesn't take place. The rate of process increases with the increase in intensity of light.

⑤ Chlorophyll - The process can't take place in absence of chlorophyll. The more is the chlorophyll present in chloroplast of cells, the higher will be the rate of photosynthesis.

Internal structure of leaf also influences the process of photosynthesis.



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Que - 19

Ans

Mechanism of absorption of food-

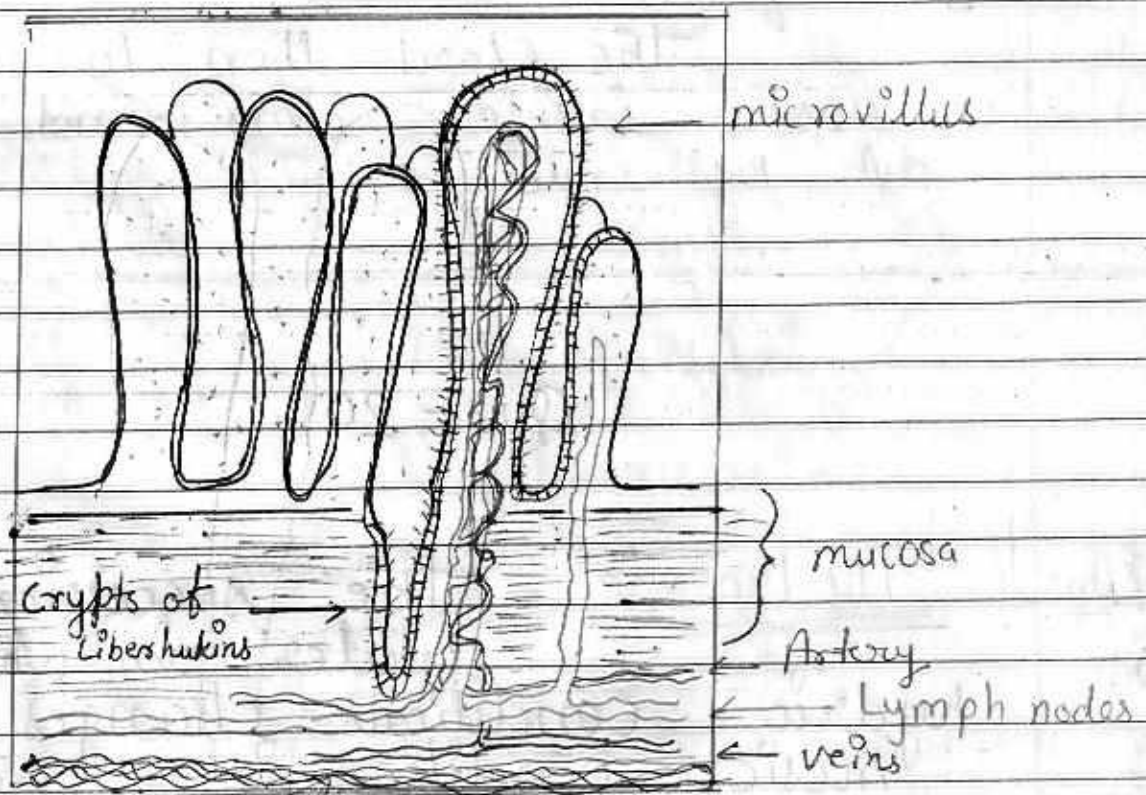
After ingestion and digestion of food absorption takes place. The food particles get completely broken down in stomach and small intestine. So the absorption also takes place from small intestine.

The walls of stomach can absorb medicine and sugar but complete absorption and assimilation of food takes place at small and large intestine.

Small intestine is a long and highly coiled tube with numerous finger like projections on its surface called villi. The presence of villi increases the absorptive surface area of small intestine.



Structure of villi -



Villi have brush border epithelium on its surface which forms microvilli. Villi have a dense network of blood capillaries and lactals are present in the centre.

The small food particles absorbed by villi are transported through blood. All the nutrients such as proteins, fats, amino acids, glucose get absorbed in small intestine. Large intestine absorbs water and salts present

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in food.

The food then turns into a paste inside colon and thrown out by anus.

Que - 20

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Ans

Hydrosere - The succession of water in which hydric conditions changes to mesic condition is called Hydrosere.

* Stages of Hydrosere *

- ① Phytoplankton stage - These are the pioneer community of water. Their activity increases the organic matter in lake or water source.
Ex - Diatoms, Spirogyra etc



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(2) Rooted submerged stage - Then comes the rooted plants which stays inside the water. Their activity make the pond shallower and increases the organic matter.
Ex - ω Hydrilla, Vallisnaria etc

B (3) Rooted floating stage - The plants have their roots in soils but leaf float on water.
Ex - Nelumbo, Nymphae.

It is followed by free floating plants ~~Lerna~~ Lemna, Wolffia, Pistia. Then comes Read swamp stage where amphibians grow and Marsh meadow stage. In it aquatic plants are replaced by marshy plants like Rhizophora.

(4) Wood land stage - Aquatic environment totally disappears and place is inhabited by herbs, shrubs and small woody plants. They transpire more water to atmosphere.



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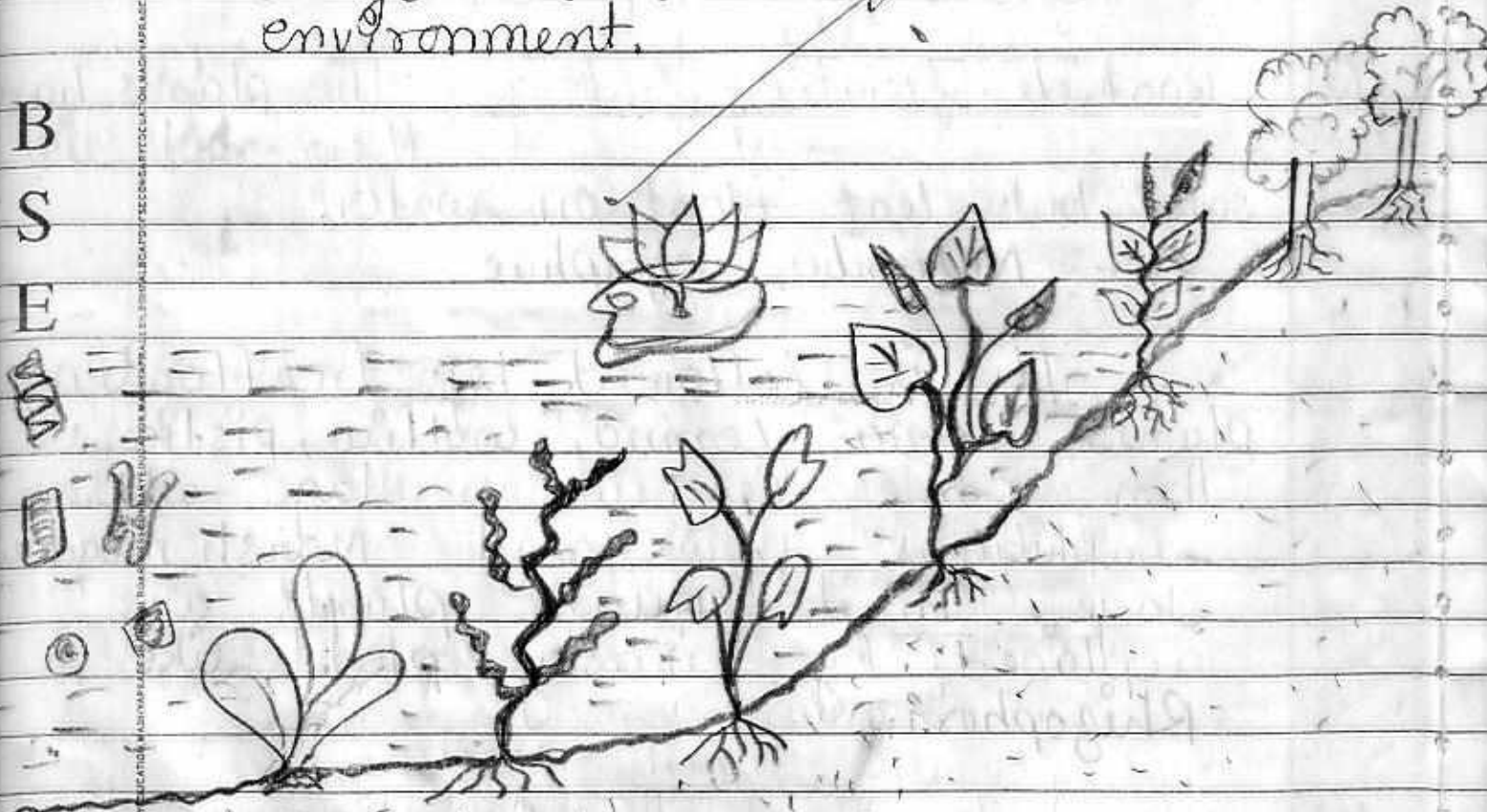


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(5)

Climax community - It is the final stage of succession. It results in formation of climax forest. All other animals also came to inhabit this area. The climax stage is in equilibrium with environment.

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phytobenthon	Submerged	Rooted floating	Reed swamp	marsh meadow	Wood land	Climax stage
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"Hydrosere"