

नमूनार्थ प्रश्नोत्तर पुस्तिका
Sample Question Answer Booklet

PART... IA

PAPER... 3rd

DATE... 27/11/2022

Paper Code
GS-IV 3rd



Paper Code
GS-IV

रोल नंबर अंतर्राष्ट्रीय अंको में लिखें -
(1, 2, 3, 4, 5, 6, 7, 8, 0)

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रोल नंबर शब्दों में लिखें -

नाम... गौत्रिका

अभ्यर्थी द्वारा सावधानीपूर्वक भरा जावे।

Roll No.					
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0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

अभ्यर्थी के अनुक्रमांक एवं पहचान पत्र को प्रवेश पत्र से
मिलान पश्चात् ही वीक्षक बॉक्स में हस्ताक्षर करें

<input type="text"/>

वीक्षक द्वारा भरा जावे।

यदि अभ्यर्थी अनुचित साधन का उपयोग करते हुए पाया जाता है तो वीक्षक निम्नांकित
गोले को काले/नीले पेन से भरे एवं तत्काल केन्द्राध्यक्ष को सूचित करें :

<input type="radio"/>

प्रश्न: (1.1)

उत्तर: Friction affected by nature of surface when surface is rough, smooth, plan. when rough then friction will be more, when smooth then less friction.

प्रश्न: (1.2)

उत्तर: when atmospheric pressure is less number of heart beats become more & more number of RBC's supply, when pressure is normal then normal rate.

प्रश्न: (1.3)

उत्तर: Kinetic energy is when person in motion, while potential energy is stored amount of energy. Kinetic energy = $\frac{1}{2}mv^2$ while potential energy = mgh .

प्रश्न: (1.4)

उत्तर: Sound wave travel slowly in medium like water, glass while travel ^{faster} more in solid medium.

प्रश्न: (1.5)

उत्तर: Artificial magnets used in compass, electrical appliances also.

ह। प्रत्येक प्रश्न 02 (दो) अंकों का है।

que. 1

This question contains 20 very short answer type sub-questions. Answer each question in ideal 10 words/one line. All questions are compulsory. Each question carries 02 (Two) Marks.

20x02=40

प्रश्न: (1.6)

पू./M = 02

प्रासांक

उत्तर :

प्रश्न: (1.7)

पू./M = 02

प्रासांक

उत्तर :

Periodicity is the ~~to & fro~~ ~~known~~ repetitive motion with in particular time interval.

प्रश्न: (1.8)

पू./M = 02

प्रासांक

उत्तर :

Periodic table we can use to identify radioactive elements, Carbohydrate Compounds that we use & phase daily.

प्रश्न: (1.9)

पू./M = 02

प्रासांक

उत्तर :

① Metals are well structured while gases are entropic in nature. ② metals are found in D-block with high melting point, while nonmetals are gases, P-block, s-block elements.

प्रश्न: (1.10)

पू./M = 02

प्रासांक

उत्तर :

pH indicator, which shows the acidity & basicity of compounds. Like litmus paper, phenolphthalein, methyl red. They change their colour.

Que. 1 This question contains 20 very short answer type sub-questions. Answer each question in ideal 10 words/one line. All questions are compulsory. Each question carries 02 (Two) Marks.

प्रश्न: (1.11)

उत्तर: Cell provide shape & size to body. It is basic functional unit - provide function to organs also.

प्रश्न: (1.12)

उत्तर: Diet - Balance diet means that helpful in physical, mental health. With this diet malnutrition undernutrition, disease were prevent.

प्रश्न: (1.13)

उत्तर: Respiration has following functions (1) conversion of food into energy (ATP) (2) provide fresh air O_2 with exchange CO_2 (3) oxidation of fatty acids.

प्रश्न: (1.14)

उत्तर: (1) Malaria due to accumulation of water (2) jaundice because of polluted water (3) Blue baby syndrome due to polluted water sanitization also cause of these disease

प्रश्न: (1.15)

उत्तर: Xylem is chief tissue, vascular which conducts water & mineral from roots to leaves of plants.

This question contains 08 short answer type sub-questions. Answer each question in ideal 50 words/5 to 6 lines. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 5 (Five) marks.

पू./M = 05

प्रासांक

प्र. (2.1)

Gravitational force is a non-contact, downward force. It is the weakest force among other non-contact forces, described by Newton's laws of motion. (i) when a body is in motion, it will try to remain in motion, when in rest, it will remain in rest, i.e. law of inertia. Resist to external change. (ii) Rate of change in momentum is directly proportional to applied force - $F \propto \Delta P$. (iii) Law of action & reaction, every body equally reacts to act.

प्र. (2.2)

पू./M = 05

प्रासांक

Sound is a wave in which particles vibrate through a medium & reach to ear of body.

(1) Noise - Noise is unwanted sound, body resists to listen it, while music is sound that body can listen.

(2) More than 20 kHz decible music, also become a noise, that not human can hear under the human limit to listen.

(3) Noise consists of many waves & vibrations.

प्रश्न: (2.3)

उत्तर: Electric cell is a cell which converts chemical energy into electrical energy. For eg - Battery.
Electric cell has two types (i) Electrochemical cell (ii) Daniel cell.

Electrochemical cell - It converts ~~electrical~~ chemical energy into electrical energy.

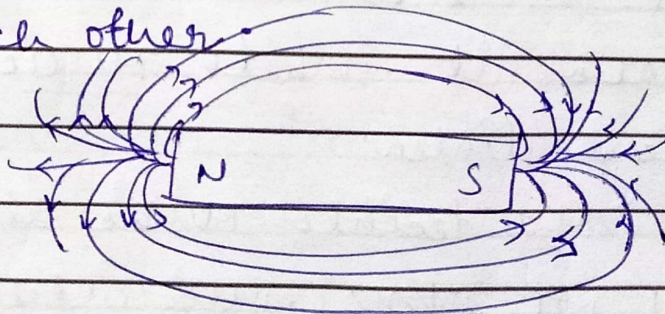
Daniel cell → It converts electrical energy into chemical energy, & stored energy into batteries.
Both together performed a cycle of conversion of energy.

प्रश्न: (2.4)

उत्तर: Magnet Properties → (A) Attract by two or magnets.
→ (B) Repel the same pole (North-North)
(C) & (South-South), while attract opposite poles.

Lines magnetic which are closed curve, & never intersect each other.

(D) none from North to South direction



This question contains 08 short answer type sub-questions. Answer each question in ideal 50 words/5 to 6 lines. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 5 (Five) marks.

प्रश्न: (2.5)

पू./M = 05

प्राप्तांक

उत्तर :

nuclear fusion is process in which atoms fuse together, with large amount of energy consumption, while nuclear fission is emission of radioactive elements, which emits enormous amount of energy. Both the reactions performed by nuclear ^{radioactive} elements. For eg- the isotopes of Hydrogen deuterium, tritium, & protium. When deuterium fission happen in hydrogen large amount of energy released, that can use as H-energy.

प्रश्न: (2.6)

पू./M = 05

प्राप्तांक

उत्तर :

Blank lines for writing the answer to question 2.6.

Que. 2

This question contains 08 short answer type sub-questions. Answer each question in ideal 50 words/5 to 6 lines. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 5 (Five) marks.

प्रश्न: (2.7)

उत्तर: A chemical element also have symbol, atomic mass, Atomic number in periodic table. These are known as element. It can have ability to react with other element or may not as in the 18th group of elements, which are inert.

Na - Hydrogen \rightarrow H

Sodium \rightarrow Na

Potassium \rightarrow K

प्रश्न: (2.8)

उत्तर: Organic farming in India nowadays replacing the chemical farming. In 2015 Sikkim become first state to become 1st fully organic farming based state. Government have initiated the programmes through "Kisiki Vigyan" to adopt organic farming. Jeevanit, Beejanit, are the some segment of organic farming followed by farmers. "Jainik Bherat" is tag of India in products that are result of organic farming.

This question contains 08 short answer type sub-questions. Answer each question in ideal 50 words/5 to 6 lines. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 5 (Five) marks.

प्रश्न 2

प्रश्न: (29)

पू./M = 05

प्राप्तंक

29. Deficiency diseases are the diseases which caused due to deficiency in nutrition & health care. Poor ex - Scurvy In deficiency disease immune system of individual become weak & it capture by diseases easily. For ex - A infant has less immune system, the breast feeding during the birth provide antibodies Igt to infant to fight with diseases. If milk not feeded then infant will susceptible to diseases.

प्रश्न: (2.10)

पू./M = 05

प्राप्तंक

प्रश्न: (2.10)

Animal Cell

Plant Cell

① Animal cell ^{do not} have cell wall that make flexible & mobile.

① Presence of cell wall make it rigid.

② Small vacuoles are present in animal cells.

② Big vacuoles are present in ^{plant} animal cells.

③ These cell stop division after certain age, due to which person become old age.

③ These cells are meristematic, differentiable in nature that divides upto several years & make tree young.

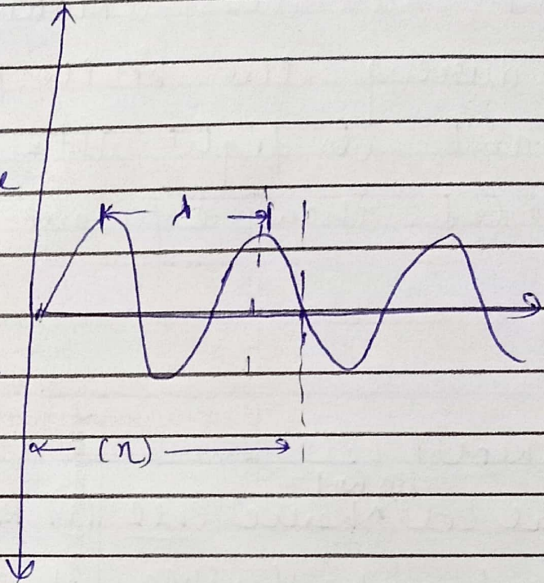
Que. 3 This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

प्रश्न: (3.1)

उत्तर: Sound is transverse wave - that travels in up-down manner.

Amplitude - Amplitude is a maximum pitch of wave attempted.

wave length - wave length denoted by (λ) - It is a distance between two same point in wave of sound wave.



Frequency it is number of cycles in one minute known as frequency

$$f = \frac{1}{T}$$

Ques. 3

This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

पू./M = 20

 प्रासांक

प्रश्न: (3.2)

अतः : A atom has atomic structure according to the presence of electron & valency.

Valency → Valency is the number of electron that gains or loss by an atom element during the ionic bond formation.

Types of Valency :-

Valency can positive & negative. When an element lose electron it become positive charged due to more number of proton than electrons. While when the element gains electron it become negatively charged.

Atom & Atomic structure :- An element has atomic mass & atomic number which define structure. A atomic structure has nucleus, shells or orbits.

Nucleus → nucleus consist proton & neutron

Shells → shells consist electrons. These electron participate in chemical reactions.

In periodic table these element defined

Que. 3

This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

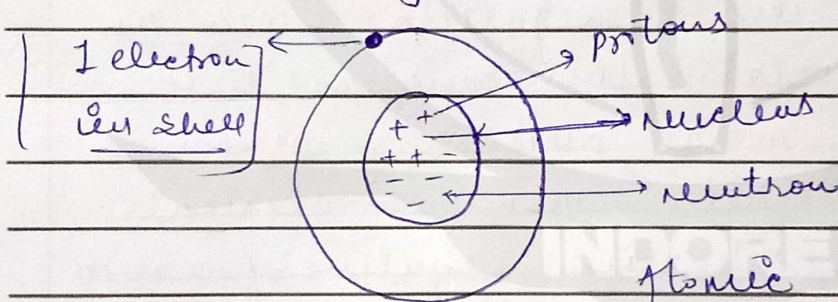
प्रश्न 3: (3.2) Continued (जारी)

As p-block, d-block, s-block elements because of the presence of last electron in the s, p, d shell orbitals.

For example - Hydrogen - Symbol - H
mass - 2
no. of electron - 1
Atomic no - 1

Atom Representⁿ → ${}^1_1\text{H}$

Presence of Hydrogen electron in s-block - $1s^2$
When hydrogen lost its one electron then it will become H^+ . The valency is positive.
Structure of Hydrogen



Atomic Structure Diagram

Que. 3

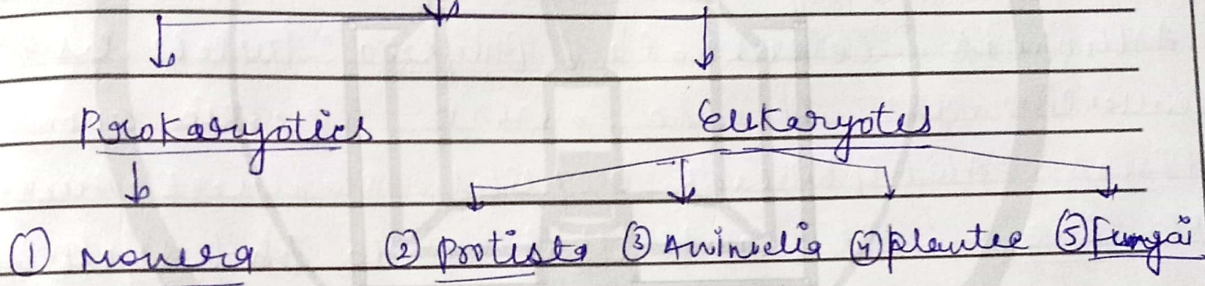
This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

VVA20-00

प्रश्न: (3.3)

पू./M = 20
प्राप्तंक

उत्तर: R.H. Whittaker in 1969 has proposed the five kingdoms: Monera, Protista, Animalia, Plantae & Fungi. He divided it into prokaryotic & eukaryotic basis. Kingdom



(1) Monera - Monera consist all bacteria. These comes under prokaryotic organism. These are unicellular with cell wall & genetic material. Having pili & flagellates to reproduce & movements respectively.

Eg - Bacteria such as - Archaea, cyanobacteria, E. coli, pseudomonas, mycoplasma.

This kingdom was discovered by Ernst Haeckel in 1866.

(2) Protista → Protista discovered by H. Copeland in Protista is a unicellular eukaryotic.

प्रश्न 3. आनवाय है। प्रश्न में आतारक विकल्प भा हा सकता है। अभ्यथा जिस आतारक विकल्प का उत्तर द रह ह उसका स्पष्ट उल्लेख उत्तर के समक्ष अनिवार्यतः करें। प्रत्येक प्रश्न 20 (बीस) अंकों का है।

Que. 3 This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

प्रश्न 3: (3.3) Continued (जारी)

Remarkable feature of protista is that it is link between the monera & other three kingdoms. Example - Euglenoids, slime molds, flagellates, diatoms. The protists has character - stics of prokaryotic as well as Eukaryotic. For example - Euglena - Can do photosynthesis as well respiration, do not have cell wall.

③ Animalia → Animalia consist the all Eukaryotic animals. It defined as Annelids, Chordata, Arthropods, Cnidaria, Polifera, Vertebrates & Invertebrates. It also consist aquatic animals Pisces, Amphibians, reptiles, Mammals, Aves.

④ Plantae - All plants that can do photosynthesis comes under plantae. Plant kingdom divided into Cryptogams (non-seed producing), Phanerogams (seed producing) plants.

⑤ Fungi - Fungi are unicellular or multicellular organism. Exception unicellular is yeast. Fungi not visible by eye, but when the fungi make structure, network then it is visible as molds. Originate on warm & moist condition cosmopolitan in nature.

This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

04x20=80

प्रश्न: (3.4)

पू./M =

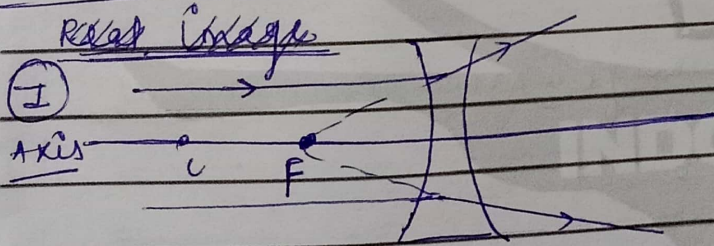
प्राप्तंक

उत्तर: Image formation is phenomenon when the reflected ray collide image is formed. Image has two types Virtual & Real.

Real Image - when a reflected ray collides real image formed.

Virtual image → when the ray being converged or diverge & it seems that ray comes from the particular source are virtual images. ex - mirror. not present actually.

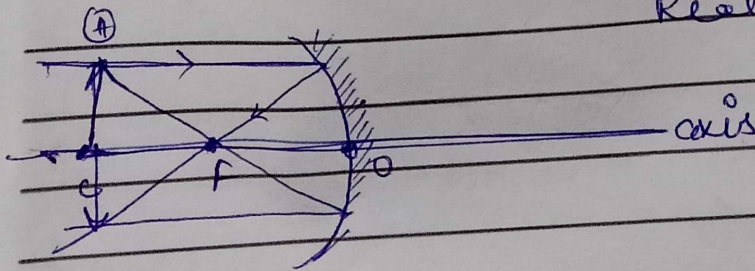
Concave mirror hence image formation -



Concave virtual image formation, because the divergence of coming rays.

II Concave mirror -

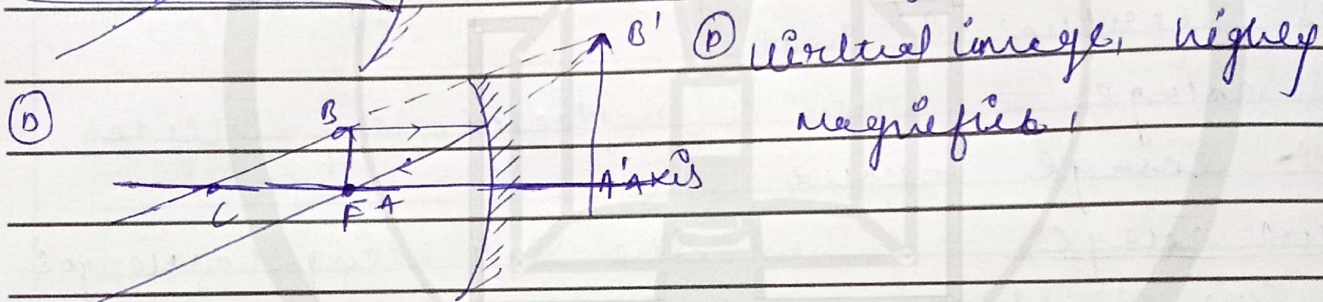
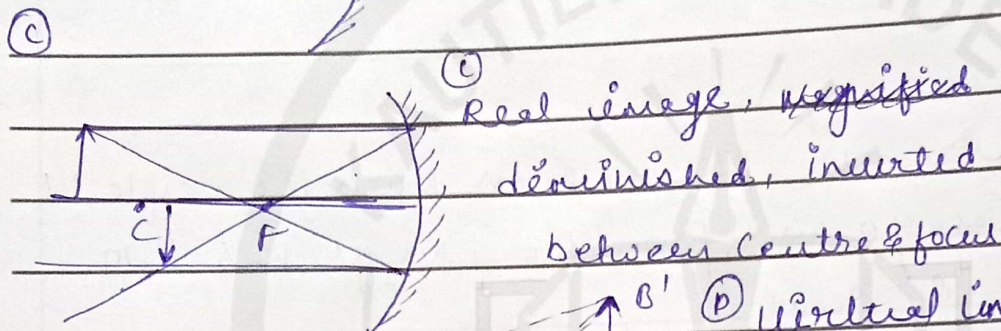
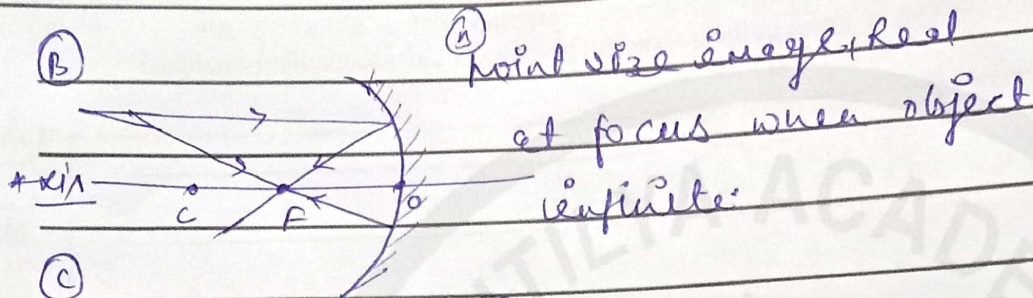
Real & same size image



Scanned

Que. 3 This question contains 04 long answer type sub-question. Answer each question in detail. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

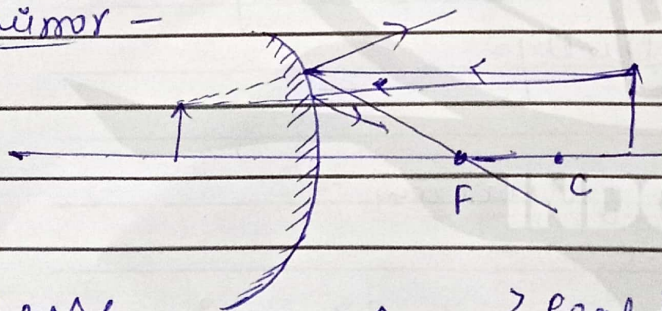
प्रश्न 3: (3.4) Continued (जारी)



Concave lens & mirror -

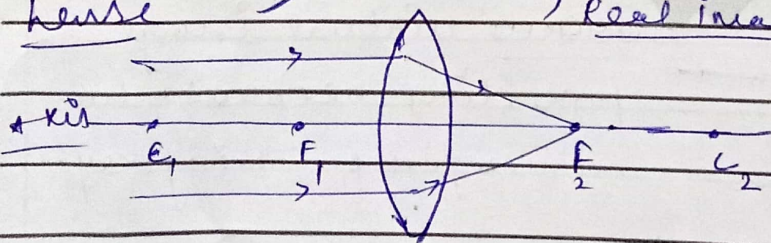
mirror -

erect image, virtual



lens

Real image, point size, at focus



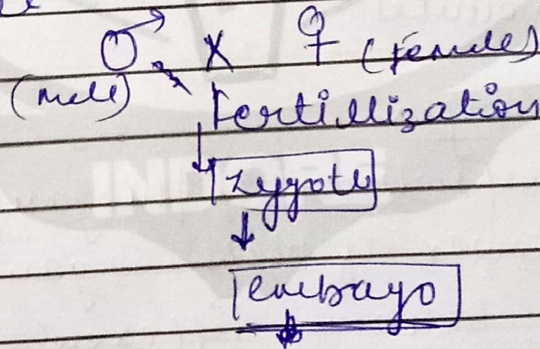
This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

पू./M = 20

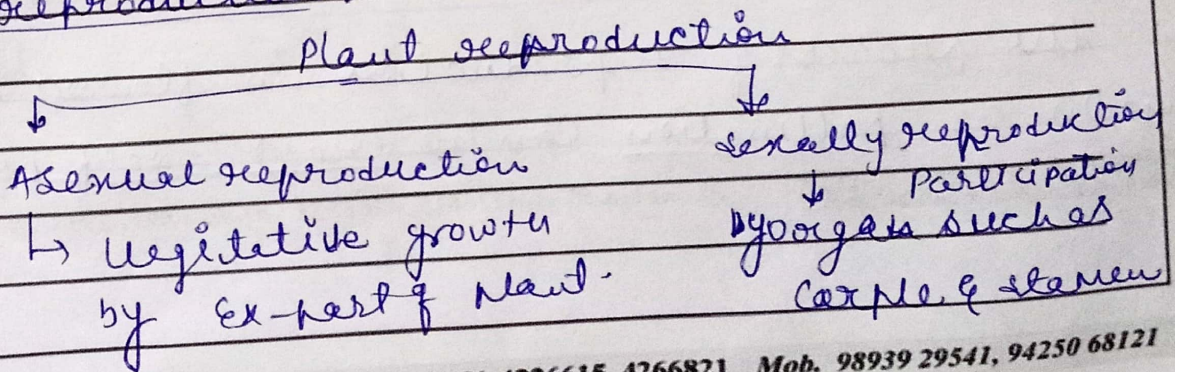
प्राप्तिक

3.5 Animal cell reproduce sexually. Animals have sex organ too reproduce. Plant cell also reproduce sexually as well asexually. They also sex organs.

Animal Reproduction :- male organ called sperm & female ovary reproduce together & take part in reproduction. millions of sperms left by male organ to fertilize egg of ovary, but small amount of sperms reach to fertilized it.



Plant reproduction :-

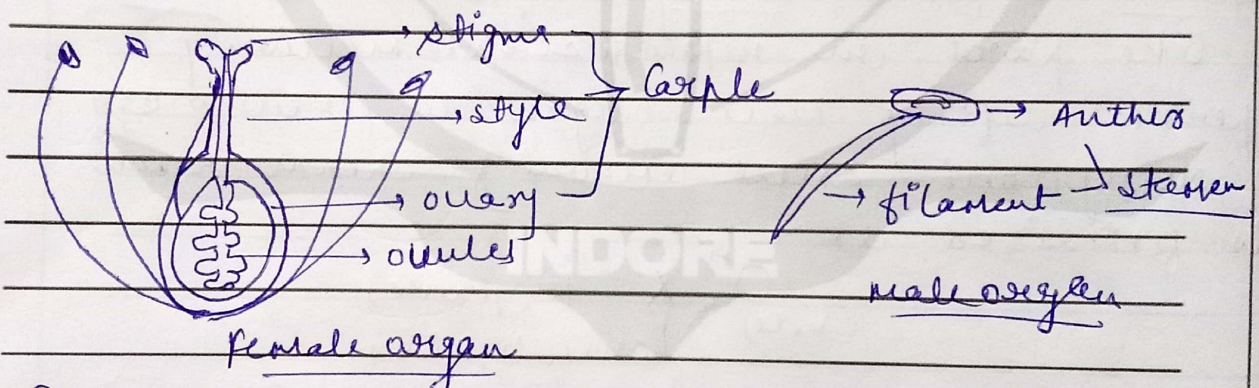


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Que. 3 This question contains 04 long answer type sub-question. Answer each question in ideal 200 words. All questions are compulsory. Internal choice can be given in the question. The candidate has to explicitly indicate the option chosen. Each question carries 20 (Twenty) marks.

प्रश्न 3: (3.5) Continued (जारी)

Vegetative - ~~explant~~ ^{part} of the ~~en-part~~ ^{part} of plant taken out of plant. It can be root, stem, leaves. It develops artificially in labs known as tissue culture. It develops same clone of previous plants known as somoclonal sexual reproduction - In sexual reproduction flowers take part in plants called pollination. organ - stamen consist filament & anther. Anther produce pollen grains that will stick to stigma of carpel. stamen male organ & carpel is female organ.



Flower can reproduce → Autogamy - self reproduction, within flower if both organ present.

Xenogamy → Between different flowers of different plants

The process of reproduction in flowers is known as pollination can be cross & self pollination.