Date : _____

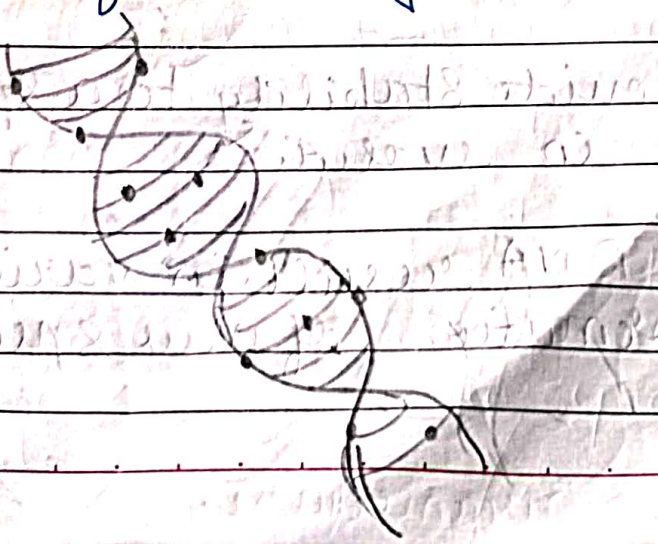
Biology
chapter no: 3

How do organism Reproduce

Reproduction is the ability of a living organism to produce new individuals similar to them like other life process (nutrition, respiration, excretion, growth) reproduction is not a life process its importance is
- continuation of life on earth
- addition of new species
- replacement of dead organism.

Basic event of reproduction
- DNA copy
  - Deoxyribo nucleic acid.

DNA
- Thread like structure
- genetic material
- present in nucleus
- pass from one generation to another.



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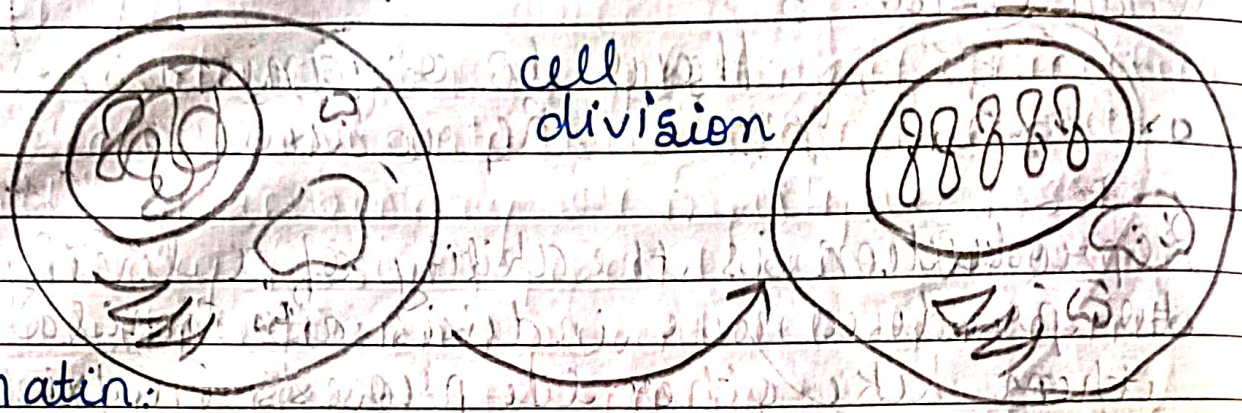


chromatin:
Scattered form of DNA dispersed throughout ~~DNA~~ nucleus

coiling and condensation of DNA

chromosom
highly coi
and
condensed
from of DN

Note:
Chromosome are only visible during cell division

- Basic event in reproduction is creation of DNA copy and additional cellular organalise.

* Singificance of Variation

- variation help organism to adapt in the changing environment
- variation provide Stability to a species thereby helps in evolution
- variations in DNA result in varieties of species and formation of new species.

Date : _____

* How do organism reproduce *

Asexual Reproduction

- Single parent is involved
- no gamete formation
- no fertilization

v/s

Sexual Reproduction

- Two parents are involved
- Gamete formation occur
- fertilisation occurs

Asexual Reproduction

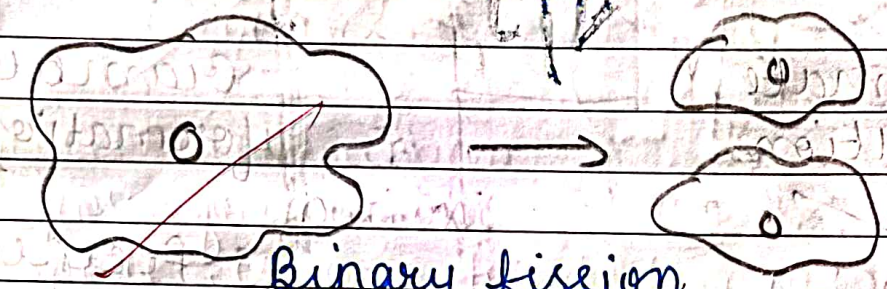
- Fission
  - Binary
    - Irregular
    - Logitudnal
    - Transverse
  - multiple
- fragmentation
- Budding
- Spore formation
- Regeneration
- vegetative propagation
  - artificial
  - natural

Date :

* Fission *

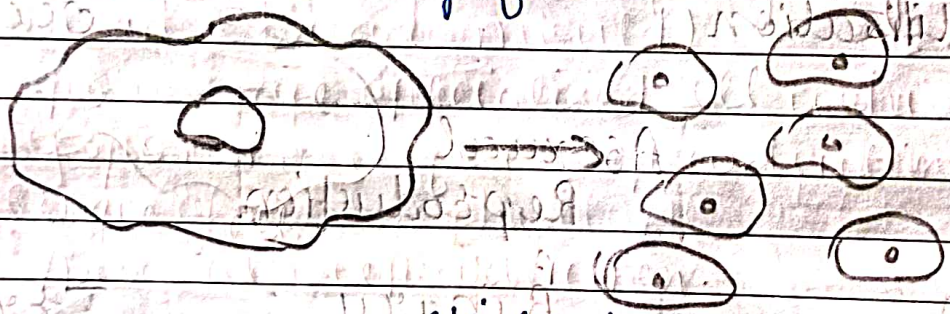
- it is division or splitting of unicellular organisam into two or more cells
- it can be binary or multiple fission
- Binary fission ; parent cell divide into tw
- multiple fission ; parent cell divide into tw or more ~~parats~~ parts

Irregular fission



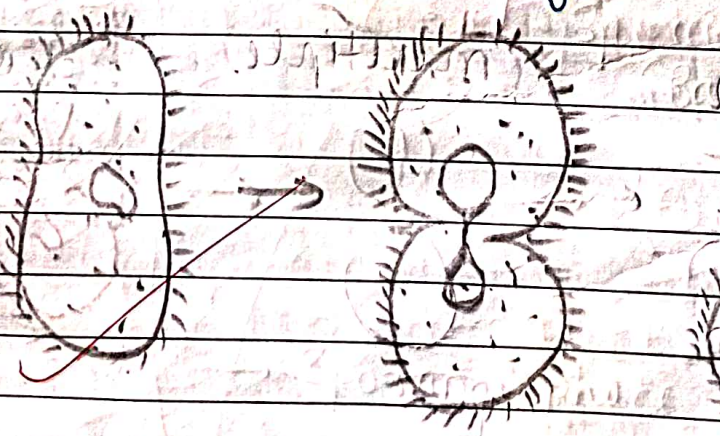
amoeba.
①

Binary fission



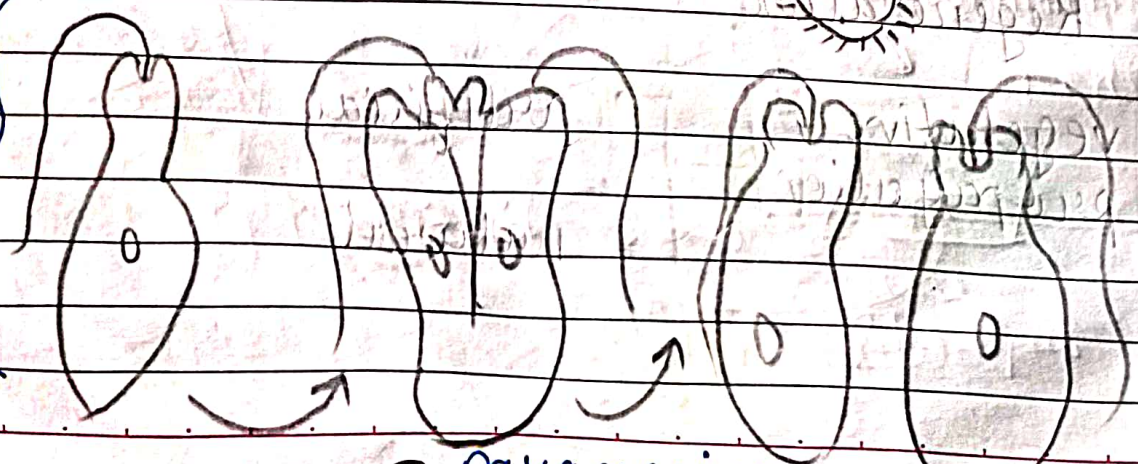
multiple fission

Transverse fission



Leishmania
②

Longitudinal fission



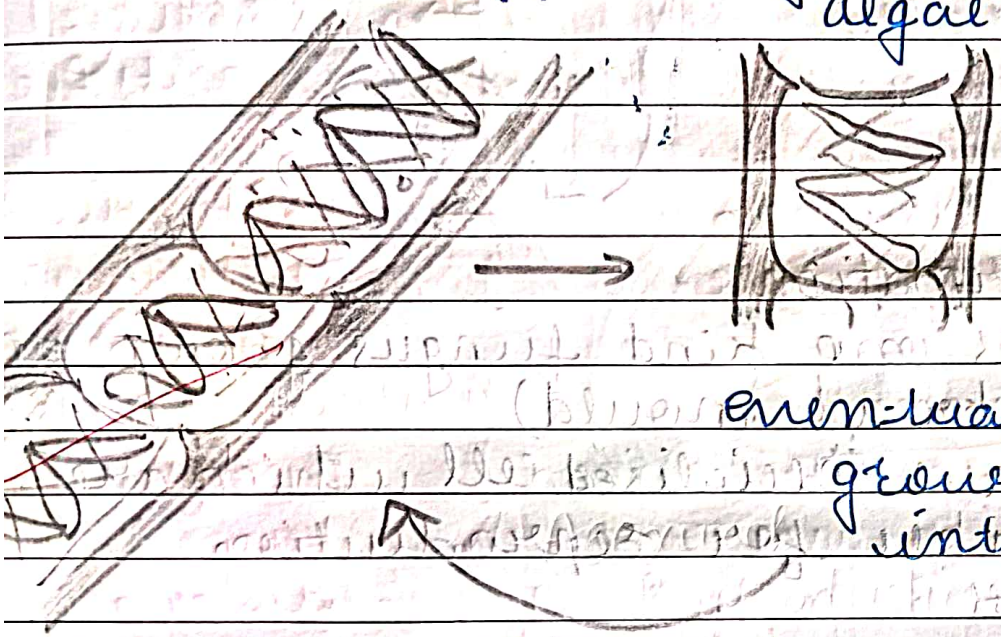
③ Paramecium.

Date : _____

Fragmentation

upon maturation the organism splits into fragments and further grow into new offspring

it can spirogyra → green algae — chlorophyll — photosynthesis



eventually grow into

upon maturation spirogyra breaks itself into many small fragments
Each fragment will grow into new spirogyra.

Budding

upon maturation a cyst grows upon a parent organism and eventually on growing it separates and grow into new one.

it can be seen in hydra.

- Aquatic animal
- Multicellular

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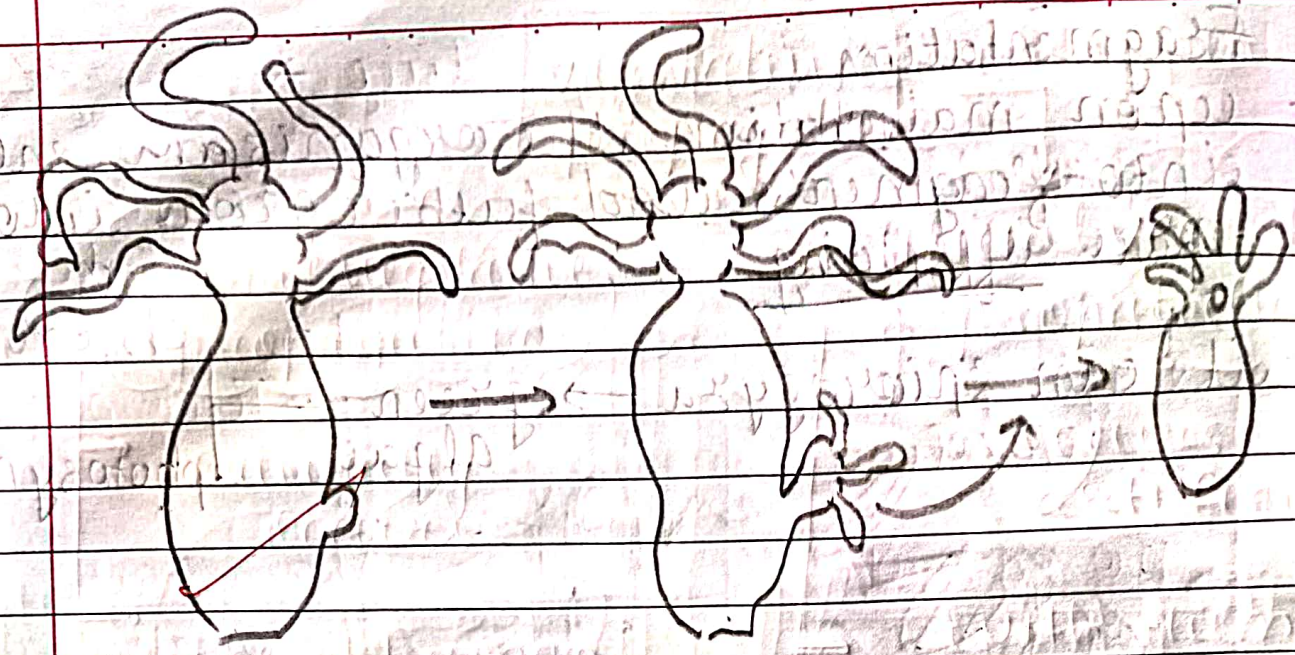
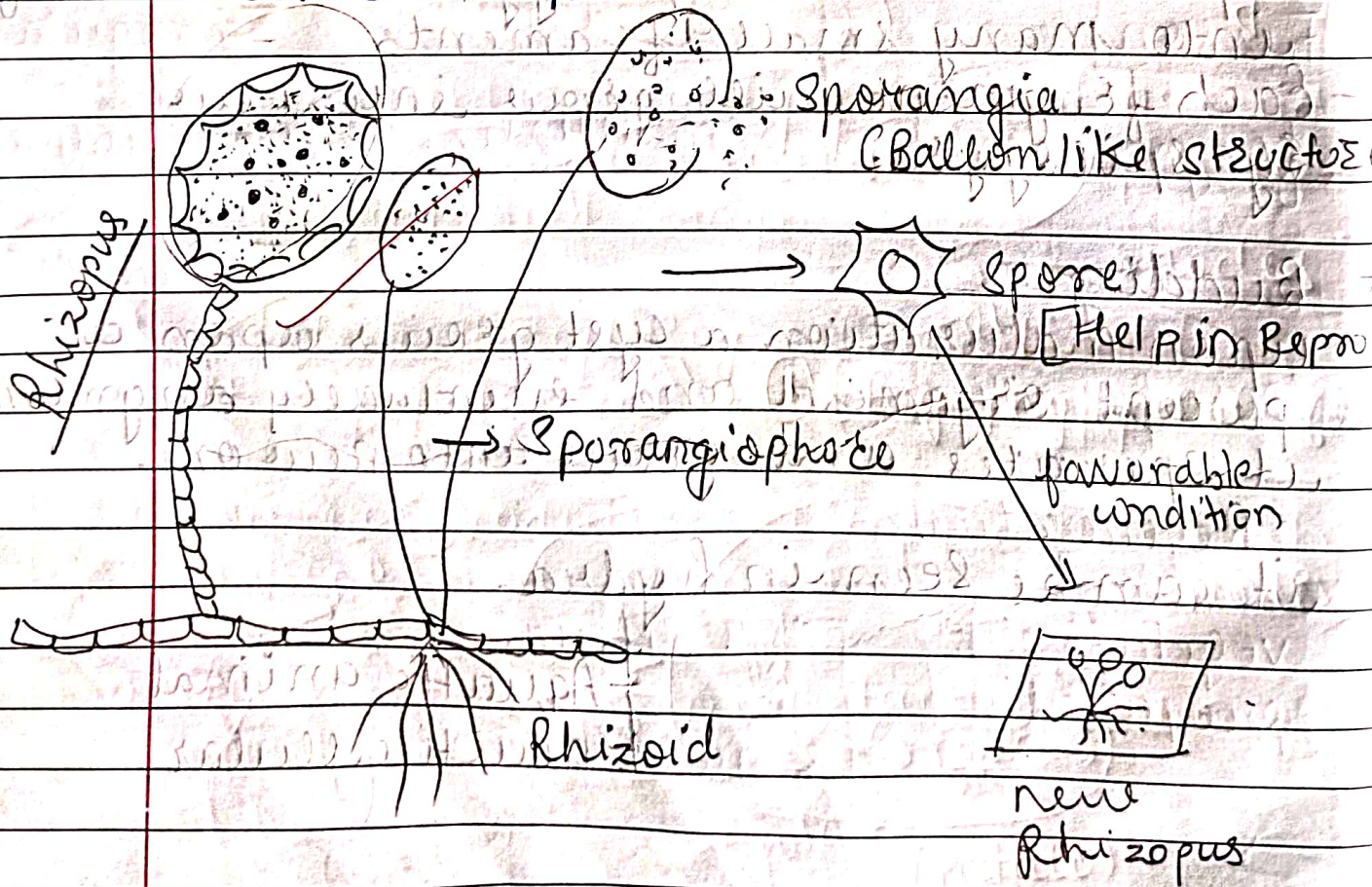


* Spore formation.
- Spore is one kind fungus grown on bread (bread mould)
- Spores are specialised cell which are responsible for reproduction.
- Single cell
- Asexual reproduction.



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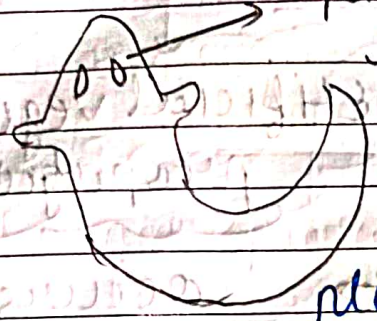
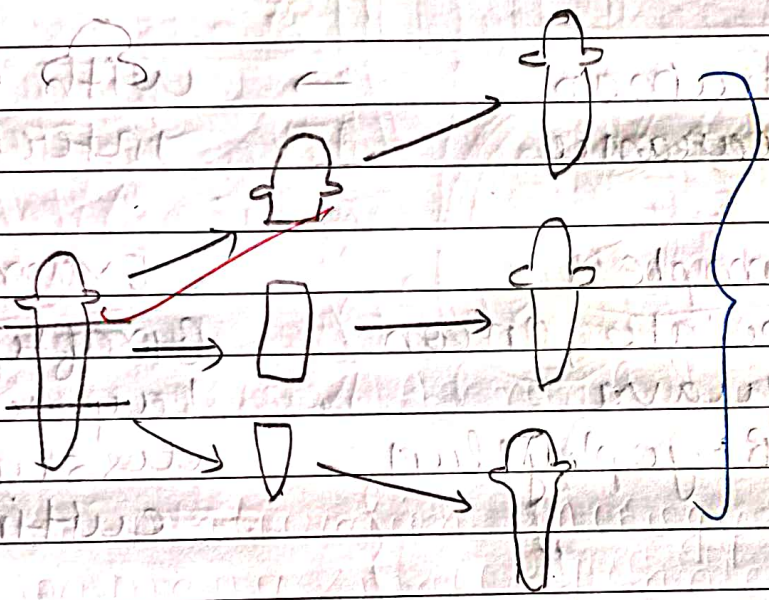
* Regeneration :



planeria

Regeneration is method of asexual reproduction where part can be grown in to new one.



This section is not a part of its life cycle.

* Vegetative propagation

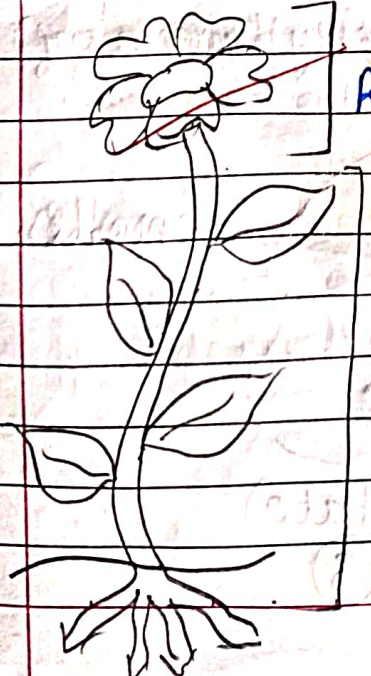
A type of Reproduction in plants reproduc with vegetative part

- Stem
- root
- leaf.

Reproductive part → flower

↓

Sexual Reproducti



vegetative part

-) leaf
-) Stem
-) root

Date :

Vegetative propagation

Natural vegetative propagation

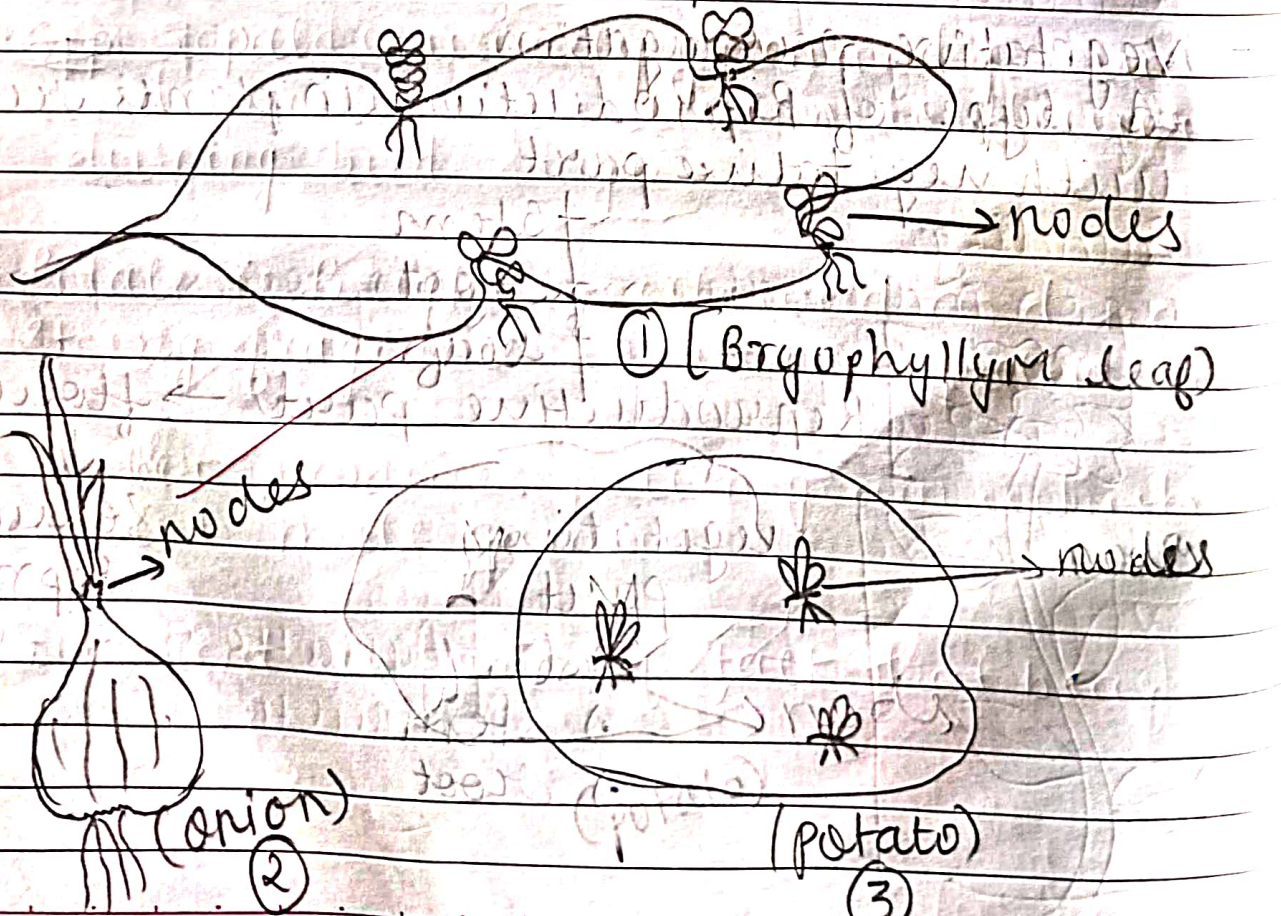
- Naturally occurs
- without human interfearance

Example
By Stem - potato, onion
By root - guava
By leaf - Bryophyllum

Artificial vegetative propagation

- occurs artificially
- with Human interfearance

Example.
Grafting
Layering
tissue culture
cutting.



① [Bryophyllum leaf]
②
③

Date : _____

- Plants raised by vegetative propagation can bear flowers and fruit earlier than those produced from seeds

- Plants can be produced on large scale in less time

- Vegetative propagation is more rapid and easier and cheper method of multiplication of plants

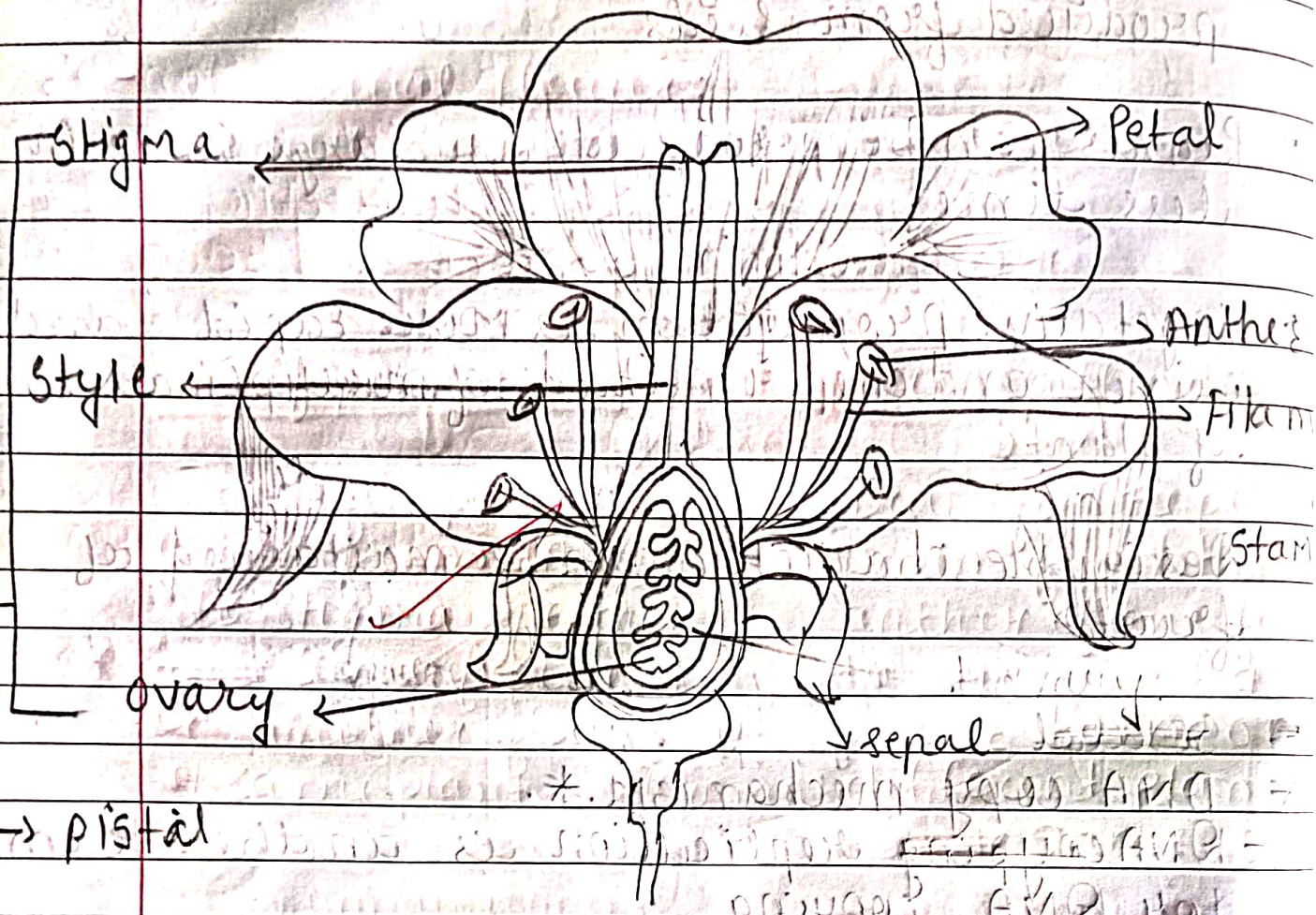
- Desirable character can be maitained of fruits

* ~~Sexual~~
* DNA copy mechanism.*.
- DNA ~~copying~~ replication is another term for DNA copying
- DNA copying is Biological process of creating two Identical dublicates of DNA from single orignal DNA molecule

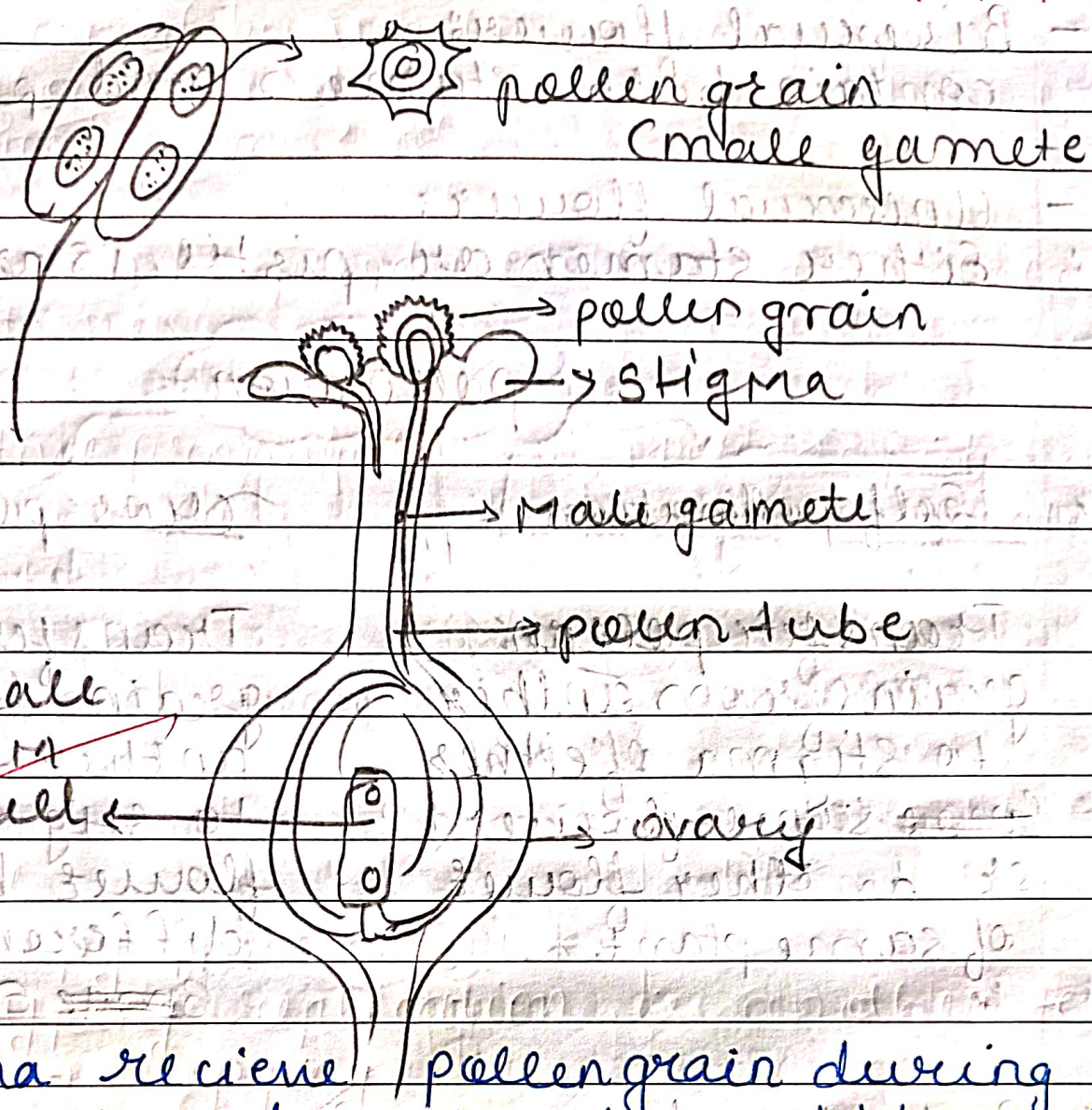
* Importance
- it insure that each daughter cell produce at the end of cell division receives at identical amount of DNA
- it causes evolution by genrating variety during sexual reproduction
- it aids the transmission of information of information or traits from parents to children.

Date :

* Sexual Reproduction in flowering plants



- Sepal is usually green and provide and provide protection to flower during bud stage.
- Petals is Brightly coloured and have strong fragrance to attract pollinators
- Anther produces pollen grain which consist male gamete
- Filament is form of stalk that bears anther



Stigma recieve pollen grain during pollination due to their sticky nature

Style is ~~the~~ elongated structure connects stigma and ovary pollen tube travel through the Style to reach ovule

Ovary is Basal swollen part of pistil converts into fruit after fertilization

Ovule is present inside ovary consist of female gametes site of fertilization

Date :

- Bisexual flowers:
contain both stamen and pistil

- Unisexual flower:
Either stamen or pistil is present

Pollination

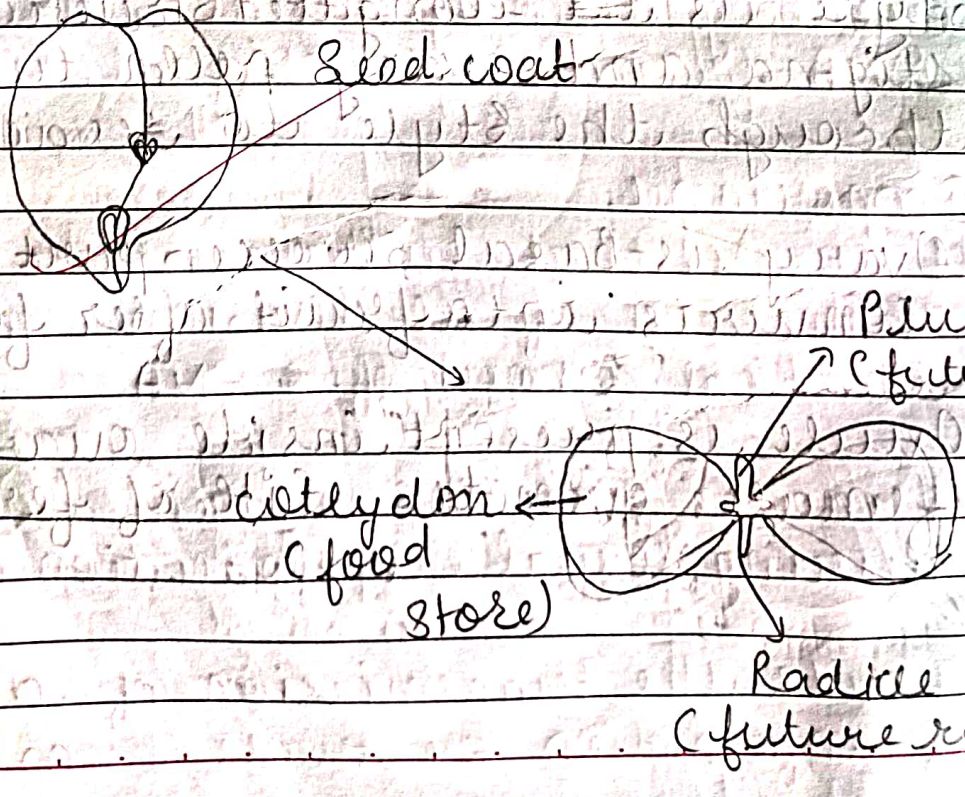
Self pollination

Transfer pollen grain from anther to stigma of either ~~same~~ same flower or another flower of same plant

Cross pollination

Transfer the pollen grain from the anther of one flow to stigma of a not flower borne of different plant of ~~same~~ same spe

* Parts of Seed



Date : _____

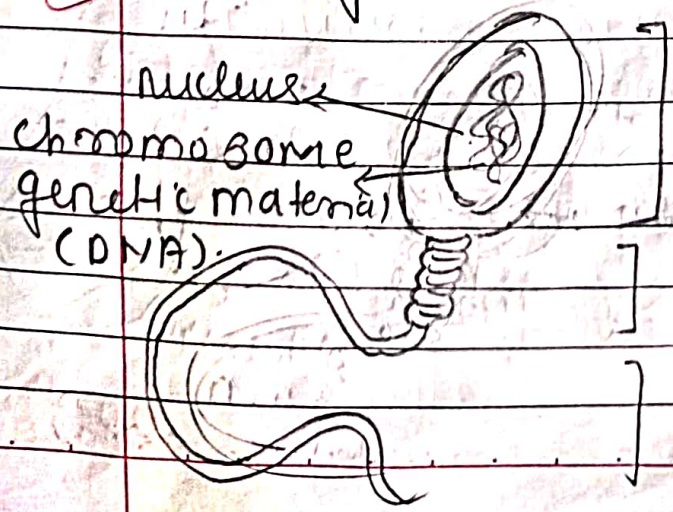
* What happens during puberty

Boys (Physical change)	Girls (Physical change)
- Facial hair growth - Increse in lean muscle mass - underarm and pubic hair growth - Enlargment of genitals	- Growth Spurd - Breast development - underarm and pubic hair growth - first Period - increse in fat Mass.

- Due to production of testisterone in Male during puberty ~~no~~ Sperm production Starts

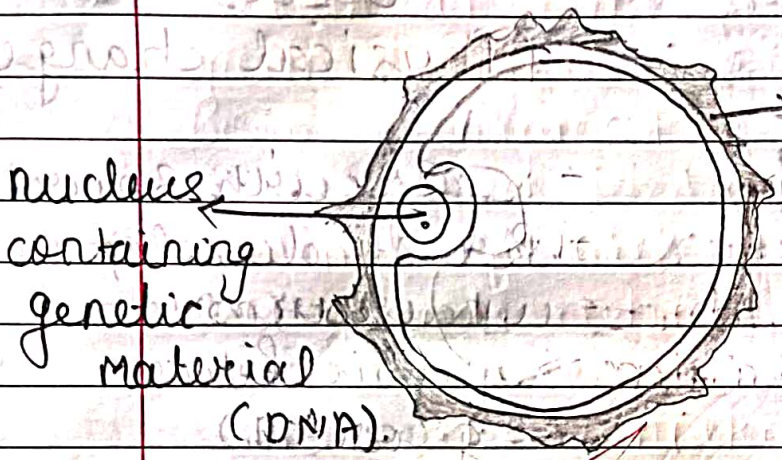
- in puberty; in female production of egg cell starts due to hormone called. Oestrogen or progestrone.

* Mal germ cell / gamete.



Date :

* Female gamete / germ cell :



* Gamete are formed by process of Meiosis.

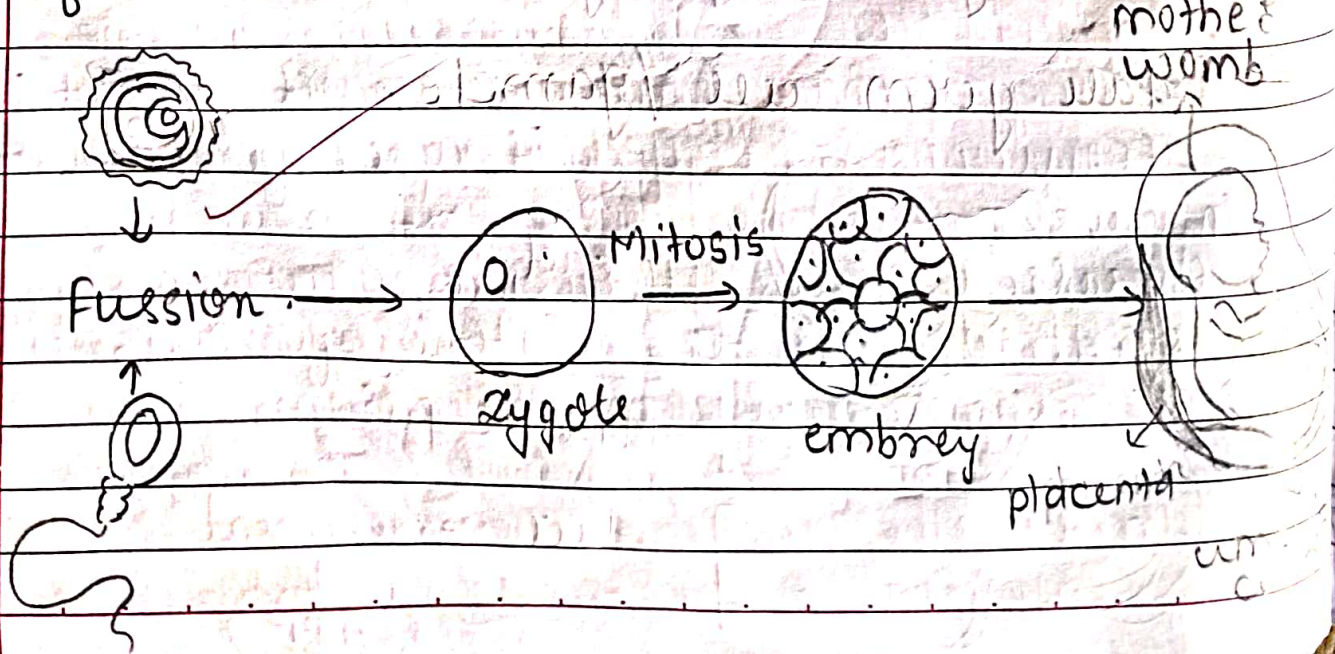
Gametogenis

Spermatogenesis

oogenesis

Reductional division.

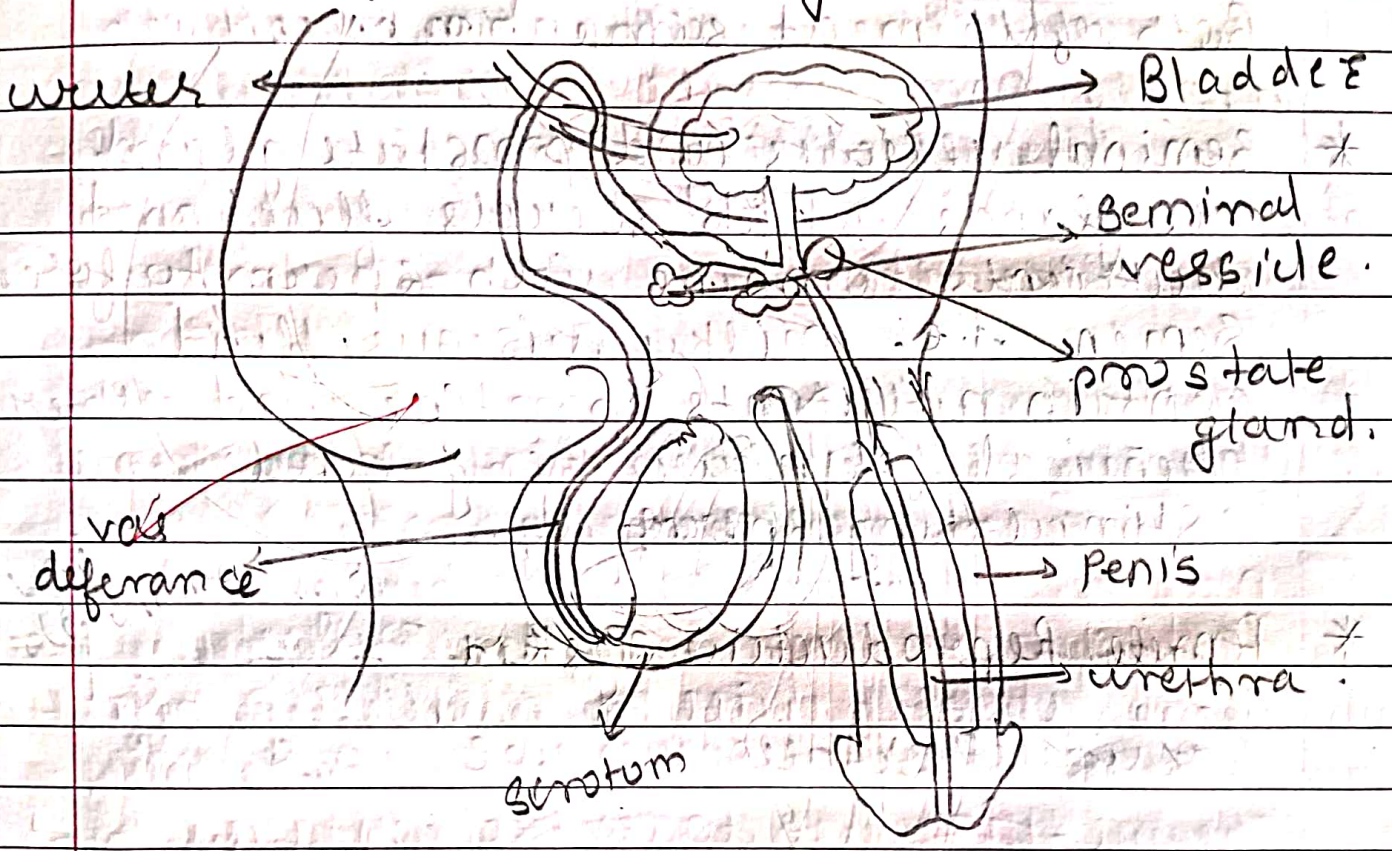
* fertization *.



Date :

- fertilisation is process in which a single cell called zygote is formed by fussion of male germ cell and female germ cell

* Male reproductive system.



* - Testis is paired oval shaped male sex. organ contains of semini ferrous tube where sperms are produced.
- produce a male sex hormone which bring about changes in apperance of Boys at puberty

* Scrotum small pouch that contain testis. present outside abdominal cavity as sperm are formed here and requires low temprature than normal body temprature

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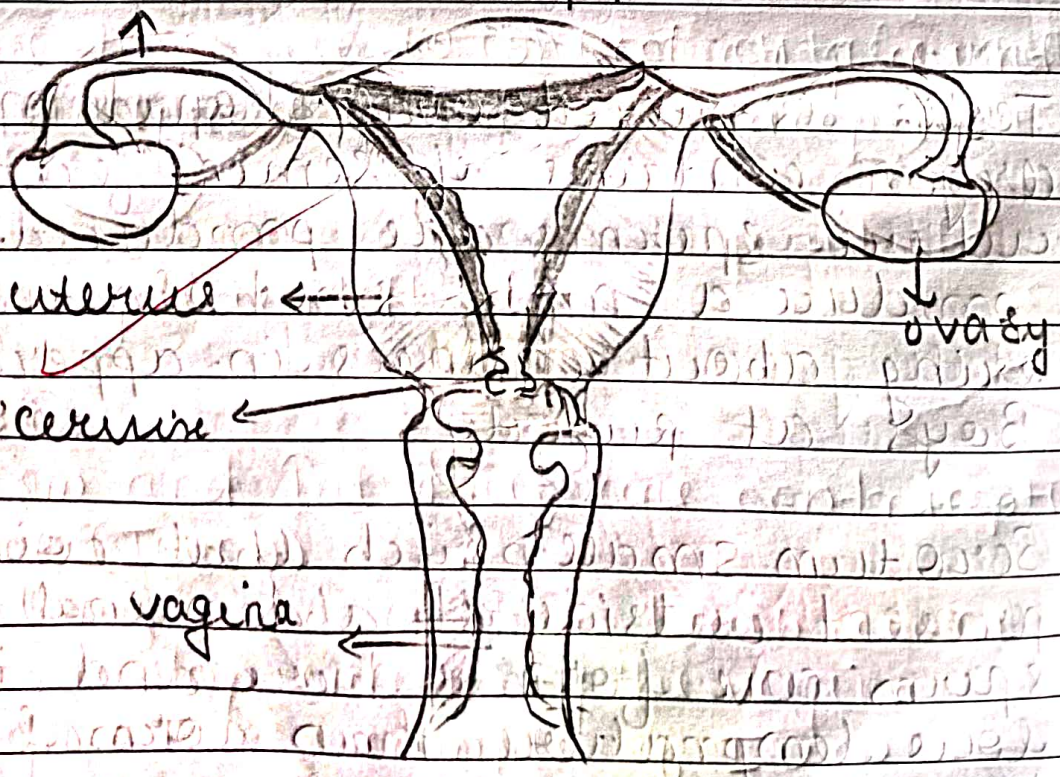
* vas deferance. is tube like structure which connect testis to urethra. in order to allow the passage of semen

* Urethra comman passage for both the sperms and urine it never carries Both of them at same time.

* Seminal vesicles and prostate gland. are glands which secrets fluid and nutrients combine with sperm to form Semen i.e. milky, viscous fluid contain nutrients protine and other chemical for nourishing and Stimulating Sperm.

* Female Reproductive System.



Date : _____

- ovaries paired oval shaped organ located in the abdominal cavity near the kidney
- oviduct it has funnel shapped opening near the ovary carries ova (egg cell) from ovary to uterus it is site of fertilisation this opens into uterus from both side.
- uterus Hollow pear-shaped bag like structure Here the growth and development of foetus takes place.
- cervix is lower and narrower portion of uterus opens into the vagina.
- vagina Recieves the sperm from male partner Serves as a birth canal.

* Menstruation *

- In females ovaries release ovum or egg cell once every 28 days from the age of puberty The uterus prepare itself every month to receive fertilise egg. Thus lining become thick and spongy if the egg cell is not it lives for about a day

Menstruation is a phase of uterine bleeding in which an unfertilised egg and thick uterine lining slowly breaks It occur through the vagina as Blood and mucus Menstruation last for about

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2-8 days.

* Reproductive Health *

it can be define as the state of physical mental and social fitness to lead a healthy reproductive life. Good reproductive health provides both male and female

- the fertility control method
- awareness how to control family size etc

* Birth control *

The sexual act has potential to result in pregnancy The pregnancy makes major demands on the body and the mind of a women if she is not redy for it her health will be adversely affected

The methods use to control or prevent the pregnancy are called contraceptive methods

* Contraceptive Method *

* Barrier

- condom and Intra-uterine contraceptive device (IUCD)
- condoms are rubber sheath worn over penis to stop entering the vagina
- Copper T is example of IUCD

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* Hormonal
- oral contraceptive pills

* Chemical
- Spermicide is applied in vagina which kills sperms can only use with condoms.

* Surgical.

Vesectomy
- Small portion of sperm duct is cutted and tied properly
- this is preventing sperm reaching to the vagina

tubectomy
- small portion of fallopian tuble is ~~cut~~ cutted and tied properly
- This is preventing egg cell reaching uterus (The site fertilisation)

* The killing of unborn girl child is called female foeticide.

* Sexually transmitted diseases (STD's)

Sexually Transmitted ~~disease~~ diseases are caused by different pathogens transmitted by an intimate contact Between a healthy person person. The most commonly transmitted sexual are as follows.

Date :

STD'S.

Bacterial Infection.

- Gonorrhoea.
  contracted on during unprotected sexual intercouse.
  infect ureter in men and cervix in women.
  antibiotic is effective
- Syphilis
  Syphilis can be transmitted during vaginal, anal or sexual Intercourse pregnant women can pass it others children.

Viral Infection

- AIDS (Aqquired Immune Deficiency Syndrom
  - during unprote sexual interco
  - sharing needle and transfusion of HIV unscree Blood.
  - from the mother to child via. Placenta durin pregnancy.
- Genital warts
  Causes warts over external genitals and perinal areas