

# **BIOLOGY**

## **BOOKS - TRUEMAN BIOLOGY**

#### REPRODUCTION

**Section A** 

**1.** The turkey usually produces female for several generations. How is this possible ?



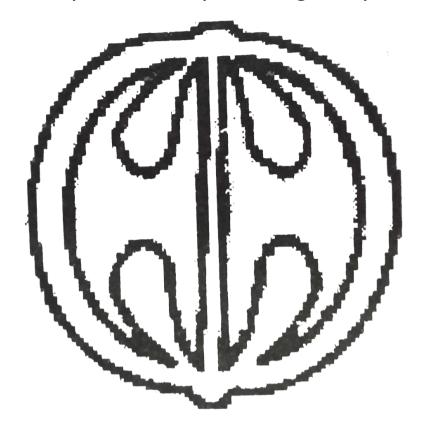
**2.** In the whiptail lizards only females are born generation after generation. There are no males. How is this possible ?



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**3.** In the given figure of a fruit, label the part which is protective in function and that which

is responsible for producing new plants.





**4.** After a successful in vitro fertilization, the fertilized egg begins to divide. Where is this egg transferred before it reaches the 8-cell stage and what is this technique named?



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**5.** Name the organization which developed the 'Saheli'



**6.** Name the stage at which zona pellucida envelope disintegrates



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**7.** How does colostrum provide protection against diseases to new born babies ?



**8.** Why do internodal segments of sugarcane fail to propagate vegetatively even when they are in contact with damp soil?



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**9.** How can pollen grains of wheat and rice which tend to lose viability within 30 minutes of their release be made available months later for breeding programmes ?



**10.** Mention two events that are inhibited by the intake of oral contraceptive pills to prevent pregnancy in humans.



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**11.** Why are non-albuminous (exalbuminous) seeds so called ?



**12.** Name the part of flower that contributes to fruit formation in strawberry



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**13.** A bilobed, dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes this anther can produce ?



**14.** An anther with malfunctioning tapetum often fails to produce viable male gametophytes . Give one reason



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**15.** Mention a characteristic feature and a function of zoospores in some algae.



**16.** Pea flower produce assured seed sets. Give a reason



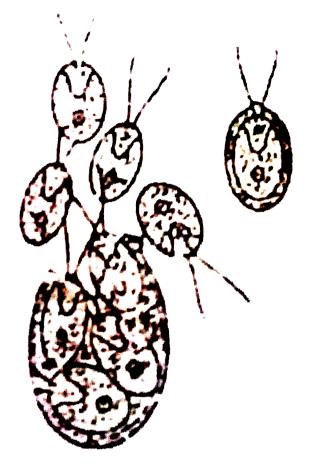
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17. write fullform of ADP and ATP



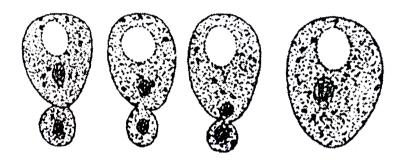
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**18.** Why do the pollen grains of Vallisneria have a mucilaginous covering ?





**19.** Name the organism and the mode of reproduction represented in the diagram given below .





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20. Why do corn cobs have long tassels?



**21.** Mention the function of trophoblast in human embryo



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**22.** Mention two inherent characteristics of Amoeba and yeast that enable them to reproduce asexually



23. Although potato tuber is an underground plant part, it is considered as a stem. Give two reason.



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24. Can an unfertilised, apomictic embryo sac give rise to a diploid embryo? If yes, then how ?



**25.** Is pollination and fertilisation necessary in apomixis? Give reason



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**26.** Reproductive health refers only to healthy reproductive functions. Comment



27. Cucurbits and papaya plants bear staminate and pistillate flowers. Mention the categories they are put under separately on the basis of the type of flowers they bear.



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**28.** Mention the differences between spermiogenesis and spermiation.



**29.** The following statements describe the characters of wind-pollinated plants. Which one of these statements is incorrect?

(i)The pollen grains are sticky

(ii)Stamens are well exposed

(iii)Flowers often have a single ovule



**30.** Write the function of Nucleus of human sperm



**31.** Name an orgainsm where cell division in itself is a mode of reproduction



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**32.** Name an algae that reproduces asexually through zoospores



**33.** Name the phenomenon and one bird where the female gamete directly develops into a new organism.

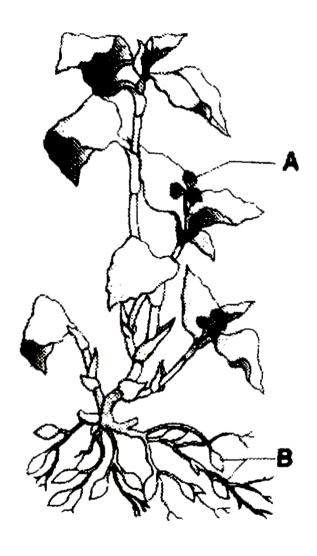


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#### **Section B**

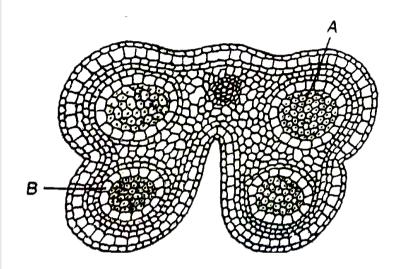
- 1. Indentify the type of flower shown in A and
- B. Which out of the two will produce an

## assured seed set?





**2.** In the T.S. of a mature anther given below, identify 'A' and 'B' and mention their function.





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**3.** In the table given below, select and enter one correct device out of the following: Oral pill, condom, Copper T, ,Vasectomy,

## Diaphragm, Tubectomy, Cervical cap

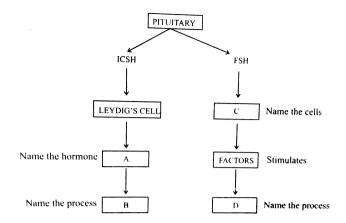
Method of birth control	Device
(a) Barrier	
(b) IUD	
(c) Surgical Technique	
(d) Administering Hormones	



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**4.** Given below is an incomplete flow chart showing influence of hormones on gametogenesis in males. Observe the flow chart carefully and fill in the blanks A,B,C and

D.

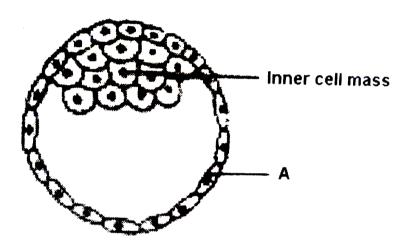




- **5.** Study the figure given below and answer the questions that follow:
- (a)Name the stage of human embryo the figure represents.

(b)Identify 'A' in the figure and mention its function .

( c )Mention the fate of the inner cell mass after implantation in the uterus .



(d)Where are the stem cells located in this embryo?



**6.** Draw a vertical section of a maize grain and label (i) pericarp, (ii)scutellum, (iii)coleoptile, and (iv) radicle



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7. Why do some women used "Saheli" pills?



**8.** Even though each pollen grain has two male gametes, why are at least 10 pollen grains and not 5 pollen grains required to fertilise 10 ovules present in a particular carpel?



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**9.** Why is an apple called a false fruit and banana a parthenocarpic fruit? Explain



**10.** Explain how geitonogamy is functionally similar to cross pollination and genetically similar to self pollination?



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11. Name any two copper releasing Intra
Uterine Devices (IUDs).List two reasons that
make them effective contraceptives.



12. If you squeeze a seed of orange you might observe many embryos of different sizes. How it possible? Explain.



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13. Differentiate between menarche and menopause.



**14.** Differentiate between major structural changes in the human ovary during the follicular and luteal phase of the menstrual cycle.



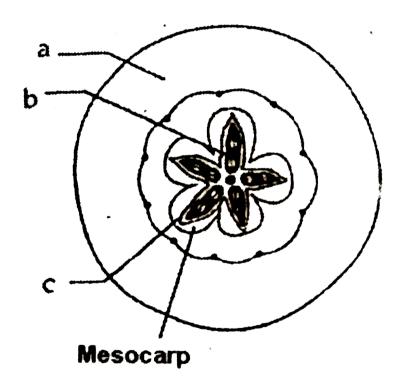
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**15.** Explain the zygote intra fallopian transfer technique ZIFT. How is intrauterine transfer technique (IUT) different from it



**16.** (i) Given below is a T.S. of an apple. Identify a,b and C

(ii) Why is an apple considered as a false fruit?





**17.** A fertilized egg is blue print of future development. Explain



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**18.** Describe the Lactational Amenorrhea method of birth control



**19.** A moss plant produces a large number of antherozoids but relatively only a few egg cells. Why?



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**20.** Mention the reasons for difference in ploidy of zygote and primary endosperm nucleus in an angiosperm.



**21.** How many haploid cells are present in mature female gametophyte of a flowering plant? Name them.



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**22.** Placenta acts as an endocrine tissue. Justify.



23. The number of taxa exhibiting asexual reproduction is drastically reduced in higher plants (angiosperms) and higher animals (vertebrates) as compared with lower groups of plants and animals. Analyse the possible reasons for this situation.



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**24.** Draw the sketch of a zoospore and a conidium. Mention two dissimilarities between

them and atleast one feature common to both structures.



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25. Given below are the events that are observed in an artificial hybridization programme. Arrange them in the correct sequential order in which they are followed in the hybridization programme. (a)re-bagging, (b)selection of parents , (c )bagging , (d)dusting the pollen on stigma

(e)emasculation, (f)collection of pollen from male parent.



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**26.** Why does the zygote begin to divide only after the division of primary Endosperm cell (PEC)?



**27.** Corpus luteum in pregnancy has a long life. However if fertilisation does not take place, it remains active only for 10-12 days. Explain.



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**28.** What are the events that take place in the ovary and uterus during follicular phase of the menstrual cycle.



29. what is bursa of fabricius



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**30.** In GIFT, gametes are transferred to the fallopian tube. Can gametes be transferred to the uterus to achieve the same result? Explain



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**31.** Briefly explain IVF



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**32.** All reproductive tract infections RTIs are STDs, but all STDs are not RTIs. Justify with example



**33.** What do you understand by amniocentesis ? Why is there a statutory ban on this ? Give reason



**34.** When and where do chorionic villi appear in humans? State their function.



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**35.** How does cleistogamy ensure autogamy?



**36.** Explain the steps that ensure cross pollination in an autogamous flower.



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**37.** Name all the haploid cells present in an unfertilized mature embryo-sac of a flowering plant. Write the total number of cells in it.



**38.** Differentiate between the two cells enclosed in a mature male gaemetophyte of an angiosperm.



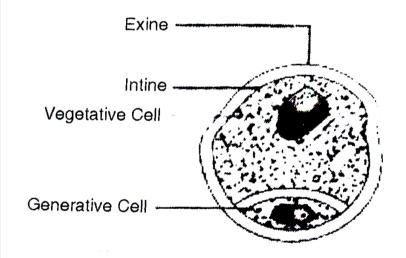
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**39.** Explain the hormonal regulation of the process of spermatogenesis in humans.



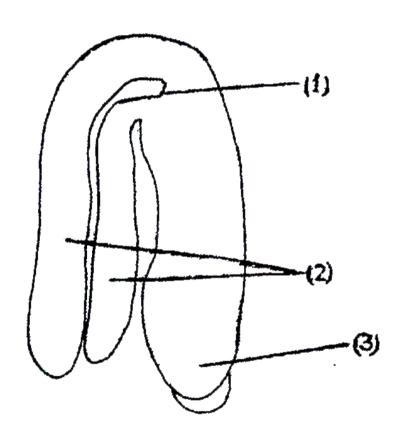
1. Draw a labelled diagram of the sectional view of a mature pollen grain of angiosperms.

Explain the function of generative cell and vegetative cell





2. In the adjacent figure of a typical dicot embryo, label the parts (1),(2) and (3) . State the function of each of the labelled part.





**3.** (a) In which part of the human female reproductive system do the following events take place?

I-Release of 1st polar body

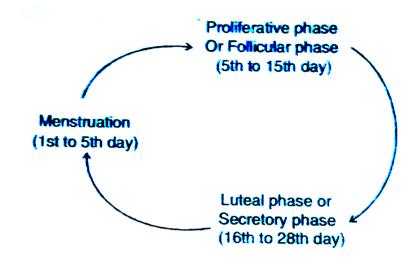
II-Release of 2nd polar body

(b) From where do signals for parturition originate and what does material pituitary release for stimulating uterine contrations for child birth?



- **4.** The events of the menstrual cycle are represented below. Answer the questions following the diagram.
- (i)State the levels of FSH, LH and Progesterone simply by mentioning high or low, around 13th and 14th day and 21st to 23 rd day.
  - (ii)In which of the above mentioned phases does the egg travel to the fallopian tube ?
- (iii)Why is there no menstruation upon

## fertilization?





- **5.** (a) Draw a labelled diagram of a sectional view of humen seminiferous tubule.
- (b) Differentiate between gametogenesis in humen males and females on the basis of

- (i) time of initation of the process.
- (ii) Products formed at the end of the process.



**6.** With the help of labelled diagrams, depict the stages of a microspore maturing into a pollen grain.



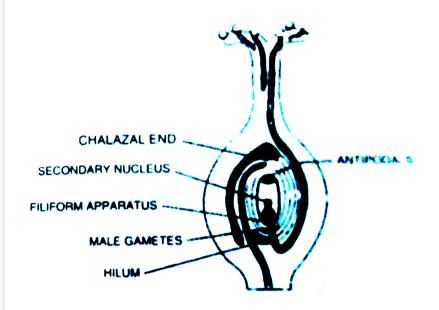
**7.** In an angiosperm the embryo sac is haploid, zygote is diploid and endosperm is triploid. Justify giving reasons for each stage.



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**8.** Draw a longitudinal section of a post-pollinated pistil showing entry of pollen tube into a mature embryo-sac. Label filiform apparatus, chalazal end, hilum, antipodals

male gametes and secondary nucleus.





**9.** (i ) Write the characteristics features of anther, pollen and stigma of wind polinated flowers.

(ii) How do flowers reward their insect pollinators? Explain.



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**10.** (a) Mention any four strategies adopted by flowering plants to prevent self-pollination.

(b) Why is geitonogamy also referred to as genetical autogamy?



11. Explain the process of artificial hybridisation to get improved crop, variety in (i) plants bearing bisexual flowers (ii) female parent producing unisexual flowers.



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**12.** Differentiate between perisperm and endosperm giving one example of each



**13.** Fertilization is essential for the production of seed, but in some angiosperms seeds develop without fertilization.

(a) Give an example of an angiosperm that produces seeds without fertilization. Name the process.

(b)Explain the two way by which seeds develop without fertilization.



- **14.** Write the function of each one of the following:
- (a) (Oviducal) Fimbriae
- (b) Coleoptile
- (c) Oxytocin



- **15.** Write the function of each of the following
- :
- (a) Middle piece in human sperm.

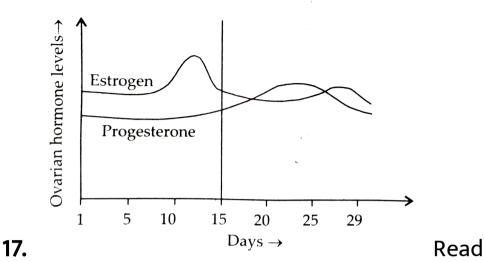
- (b) Tapeturn in anthers.
- (c) Luteinizing hormone in human males.



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- **16.** Write the function of each of the following
- (a) Seminal vesicle
- (b) Scutellum
- (c) Acrosome of human sperm.





the graph given above and correlate the uterine events that take place according to the hormonal levels on

- (i) 6 15 days
- (ii) 16 25 days
- (iii) 26 28 days (if the ovum is not fertilised)

(b) Specify the sources of the hormones mentioned in the graph.



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**18.** Expand the following and explain any one of them.

(i) IVF (ii) ZIFT (iii) IUI (iv) MTP



- **19.** Draw the following diagrams related to human reproduction and label them.
- (a) The zygote after the first cleavage division
- (b) Morula stage
- (c) Blastocyst stage (sectional view)



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**20.** Suggest and explain any three Assisted Reproductive Technologies (ART) to an infertile couple.



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**21.** what is produced in anaerobic respiration of yeast



**22.** Write the changes a fertilized ovule undergoes within the ovary in an angiosperm plant.



## Section D

1. A woman has conceived and implantation has occurred in her uterus. Explain the sequence of changes upto parturition which take place within her body.

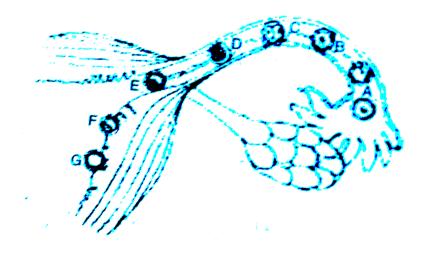


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2. "Incompatibility is a natural barrier in the fusion of gametes". Justify the statement.



**3.** Show diagrammatically the stages of embryonic development from zygote upto implantation in humans .





**4.** Draw a schematic diagram of a human sperm and label the cellular components.



- **5.** (a) Give a schematic representation of spermatogenesis in humans .
- (b) At which stage of life does gametogenesis begin in human male and female respectively?
- (c )Name the organs where gametogenesis

gets completed in male and female respectively.



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6. Explain with the help of a diagram the development of a mature embryo sac from a megaspore mother cell in angiosperm.



**7.** Study the flow chart given below . Name the hormones involved at each stage and explain their functions .





**8.** When and where in the body is oogenesis completed?



- **9.** (a) How is the placenta connected to the embryo?
- (b) Placenta acts as an endocrine gland.

  Explain.



- 10. Give reasons why:
- (i) Most zygotes in angiosperms divide only after certain amount of endosperm is formed.
- (ii) Groundnut seeds are exalbuminous and castor seeds are albuminous.

(iii) Micropyle remains as a small pore in the seed coat of a seed.

(iv) Integuments of an ovule harden and the water content is highly reduced, as the seed matures.

(v) Apple and cashew are not called true fruits.



**11.** 2 difference between cross pollination and self pollination



**12.** Draw a labelled diagram of the structure of mature dicot embryo.



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**13.** (a ) Draw a labelled longisectional view of an albuminous 'seed'.



**14.** Describe the post-zygotic events leading to implantation and placenta formation in humans. Mention any two functions of placenta.



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**15.** Although sexual reproduction is a long drawn, energy-intensive complex form of reproduction, many groups of organisms in kingdom- Animalia and Plantae prefer this

mode of reproduction. Give atleast three resaons for this.



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16. Embryo sacs of some apomitic species appear normal but contain diploid cells. Suggest a suitable explanation for the condition.



**17.** Meiotic division during oogenesis is different from that in spermatogenesis. Explain how and why?



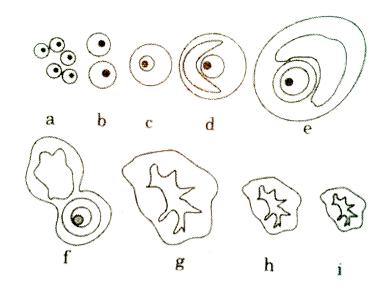
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**18.** Enumerate and describe any five reasons for introducing sex education to school-going children .



- **19.** The following is the illustration of the sequence of ovarian events (a 1) in a human female. (a) Identify the figure that illustrates ovulation and mention the stage of oogenesis it represents.
- (b) Name the pituitary hormone that has caused the above mentioned event.
- (c) Explain the changes that occur in the uterus simultaneously in anticipation
- (d) Write the differences between 'c and 'h'.
- (e) Draw a labelled sketch of the structure of a

human ovum prior to fertilization.





**20.** Describe the stage in embryo development in a dicot plant.



**21.** Where is morula formed in humans? Explain the process of its development from the zygote.



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**22.** Mention the fate of all the components of the embryo sac after fertilization



- **23.** (a) Draw a diagrammatic sectional view of a mature anatropous ovule and label the following parts in it:
- (i) that develops into seed coat.
- (ii) that develops into an embryo after fertilization.
- (iii) that develops into an endosperm in an albuminous seed.
- (iv) through which the pollen tube gains entry into the embryo sac.
- (v) that attaches the ovule to the placenta.

(b) Describe the characteristic features of wind pollinated flowers.



- **24.** (a) Draw a diagrammatic sectional view of the female reproductive system of human and label the parts
- (i) where the secondary oocytes develop
- (ii) which helps in collection of ovum after ovulation
- (iii) where fertilization occurs

(iv) where implantation of embryo occurs.

(b) Explain the role of pituitary and the ovarian hormones in menstrual cycle in human females.



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25. (a) Draw a labelled schematic diagram of the transverse section of a mature anther of an angiosperm plant.

(b) Describe the characteristic features of an insect pollinated flower.

**26.** Write two differences between spermtogenesis and oogenesis



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**27.** (a) Draw a diagram of a mature embryo sac of an angiosperm and label the following parts in it:

(i) Filiform apparatus (ii) Synergids

(iii) Central cell (iv) Egg cell

- (v) Polar nuclei (vi) Antipodals
- (b) Write the fate of egg cell and polar nuclei after fertilization.



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# **Multiple Choice Question**

**1.** Regeneration was first discovered in Hydra by

A. 1)Linnaeus

- B. 2)Trembley
- C. 3)Thomas Addison
- D. 4)Stanley

### **Answer: B**



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**2.** Gerontology is the branch of science that deals with

A. birds

- B. bones
- C. ageing
- D. earth

### **Answer: C**



- **3.** Sex first originated in
  - A. protistans
  - B. simple algae

C. angiosperms

D. both 1 and 2

**Answer: D** 



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**4.** Strobilanthus kunthiana (Neeelakuranji) flowers once in 12 years, The last time this plant flowered during September-Octobers 2006. It is found in hilly areas in

- A. Kerala and Karnataka
- B. Tamil Nadu
- C. Andhra Pradesh
- D. Both (1) and (2)

### **Answer: D**



- 5. Blood is discharged from the uterus in
  - A. oestrous cycle

- B. menstrual cycle
- C. cardiac cycle
- D. urea cycle

### **Answer: B**



- 6. Endosperm provides food to the growing
  - A. seeds
  - B. fruit

C. endosperm

D. embryo

### **Answer: D**



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**7.** Which of the following animals, is /are ovoviviparous

A. Hen

B. Platypus

C. (1) and (2)

D. Rattle snake

**Answer: D** 



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**8.** Parthenogenesis occurs in

A. Axolotl

B. Miracidium and Metacercaria

C. Cercaria

D. Sporocyst and redia

### **Answer: D**



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9. Paramecium reproduces by

A. asexual reproduction

B. sexual reproduction

C. both (1) and (2)

D. none of the above

### **Answer: C**



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**10.** When male differs female in morphology, it is called

- A. heterogamy
- B. homogamy
- C. sexual dimorphism
- D. hermaphroditism

### **Answer: C**



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- 11. Paedogenesis is found in the larvae of
  - A. Taenia
  - B. Fasciola
  - C. Rana
  - D. Butterfly

**Answer: B** 

# 12. Oblique binary fission is found in

A. Monocystis

B. Plasmodium vivax

C. Planaria

D. Ceratium

### **Answer: D**



**13.** Which one has the capacity to reproduce without fertilization of eggs ?

- A. Spider
- B. Crow
- C. Honey bee
- D. Earthworm

**Answer: C** 



**14.** The term homothallic and monoeious are used to denote

- A. Bisexual condition
- B. Unisexual condition
- C. Staminate flowers
- D. Pistillate flowers

**Answer: A** 



- **15.** What is the maximum age of parrot?
  - A. 90 years
  - B. 25 years
  - C. 500 years
  - D. 140 years

## **Answer: D**



- **16.** Which of the following statement is true about wate hyacinth?
  - A. It is very useful for farmer because it acts as manure
  - B. It is found only in sea water
  - C. It takes oxygen from water which causes
    - death of fishes
  - D. It gives useful products to be used in medicine

### **Answer: C**



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**17.** Bryophyllum has asexual reproductive bodies namely

A. runner

B. sucker

C. bulb

D. adventitous buds

### **Answer: D**



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18. Which of following plants is monoecious?

- A. Papaya
- B. Date palm
- C. Coconut
- D. Both (1) and (2)

#### **Answer: C**

### 19. Internal fertilization is found in all

A. reptiles, birds, mammals

B. insects, annelids, echinoderms

C. sponges, flatworm, protochordates

D. fishes, amphibians, coelenterates

### **Answer: A**



20. Which are hermaphrodite?

A. Earthworm, Hydra and Leech

B. Cockroach, Ascaris and Hydra

C. Earthworm, Ascaris and Leech

D. Ascaris, Cockroach and Hydra

**Answer: A** 



- **21.** Gemma cups are located on the male and female thalmi of Marchantia as
- 1. they are always attached to thalami
- 2. they are detached from the parent body and germinate to form new individuals
- 3. Gemma cups are protective in function
- 4. they produce gametes
  - A. they are always attached to thalami
  - B. they are detached from the parent body
    - and germinate to form new individuals

- C. Gemma cups are protective in function
- D. they produce gametes

### **Answer: B**



- **22.** Formation of the whole body of an organism from a small fragment is called
  - A. morphallaxis
  - B. epimorphosis

C. morphogenesis

D. metabolism

**Answer: A** 



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**23.** The vegetative propagation where a branch is injured defoliated and pegged down in the ground in known as

A. layering

- B. grafting
- C. cutting
- D. bud grafting

### **Answer: A**



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**24.** It will not make any sense to produce seedless

A. grapes

- B. bananas
- C. guavas
- D. pomegranates

### **Answer: D**



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**25.** The technique of obtaining large number plantlets by tissue culture method is called

A. Plantiet culture

- B. organ culture
- C. micropropagation
- D. macropropagation

#### **Answer: C**



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**26.** Fleshy buds produced in the axil of the leaves, which grow to form new plants when shed and on ground, are called

- A. bulbs
- B. bulbils
- C. tubers
- D. offsets

### **Answer: B**



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**27.** Among the following which one is not a method of asexual reproduction ?

- A. Budding
- B. Layering
- C. Sowing
- D. Binary fission

# **Answer: C**



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28. Double fertilization is found in

A. angiosperms

- B. gymnosperms
- C. pteridophytes
- D. bryphytes

### **Answer: A**



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**29.** Seeds are called products of sexual reproduction because they

A. are formed by fusion of gametes

- B. give rise to new plants
- C. can be stored for long time
- D. are formed by fusion of pollen tubes

#### **Answer: A**



- **30.** Bamboo species flower
  - A. only once in lifetime
  - B. once in 12 years

C. every year

D. twice in 50-100 years

### **Answer: A**



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**31.** Oestrous cycle is characteristic of mammalian females other than primates and occurs in females of

- 1. Monkeys
- 2. Cows

- 3. Apes
- 4. Humans
  - A. Monkeys
  - B. Cows
  - C. Apes
  - D. Humans

## **Answer: B**



**32.** Chromosome number in melanocyte of drosophila (fruit fly) is a. 2

b. 4 c. 6

d. 8

A. 2 B. 4

C. 6

D. 8

#### **Answer: D**



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**33.** Life span of crocodile and May fly is respectively

- A. 15 years, 1week
- B. 30 years, 1 year
- C. 45 years, 1 month
- D. 60 years, 1day

#### **Answer: D**



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# 34. Zoospores of chlamydomonas are

A. laterally flagelated

B. pyramid shaped

C. non motile asexual spores

D. exogenously orginated

**Answer: A** 

**35.** The nodes are called 'eyes' which will form a new plant

A. Ginger

B. Bryophyllum

C. Alocasia

D. Potato

**Answer: D** 



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**36.** Life span of tortoise is

- A. 25-50 years
- B. 50-75 years
- C. 75 to 100 years
- D. 100-150 years

#### **Answer: D**



# 37. Vegetatively reproduced organism is

- A. Dahlia
- B. Ginger
- C. Potato
- D. all of the above

#### **Answer: D**



# 38. Ciliate motile spores are called

- A. aplanospores
- B. conidia
- C. zoospores
- D. oospores

### **Answer: C**



# 39. The endosperm in angiosperm is

- A. 1)haploid
- B. 2)diploid
- C. 3)triploid
- D. 4)none of these

### **Answer: C**



40 -	_1			•		•
<b>40.</b>	he	end	osperm	ın	gymnosperms	IS

- A. haploid
- B. diploid
- C. triploid
- D. none of these

## **Answer: A**



<b>41.</b> lı	n whe	at, po	llinati	ion tal	ke pla	ice by
		, p .				,

A. water

B. wind

C. animals

D. bats

**Answer: B** 



## 42. In maize pollination is called

A. anemophily

B. entomophily

C. zoophily

D. hydrophily

## **Answer: A**



# **43.** Chromosome number in meiocyte of human beings is

- A. 40
- B. 42
- C. 44
- D. 46

## **Answer: D**



**44.** Chromosome number in gamete of onion

A. 8

is

B. 16

C. 24

D. 32

## **Answer: B**



**45.** Comparable to angiospersm, which of the following algae exhibits diplontic life cycle ?

- A. Spirogyra
- B. Ectocarpus
- C. Polysiphonia
- D. Fucus

**Answer: D** 



**46.** The term used for the offspering that are ex-actly identical to one another as well as identical to their parents is

- A. twins
- B. replicates
- C. drones
- D. clone

**Answer: D** 



47. Find the correct combination.

A. Zoospore in sponge

B. Gemmules in Penicillium

C. Conidium in Algae

D. Buds in Hydra

**Answer: D** 



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48. The meiocyte is

- A. haploid
- B. diploid
- C. triploid
- D. none of these

## **Answer: B**



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**49.** Grafting in monocots is rarely successful because

A. monocotes have closed vascular

cambium

B. monocates are without cambium

C. both (1) and (2)

D. both wrong

**Answer: C** 



**50.** If you have taken scion of desi mango and stock of dasheri mango, what type of mango will be born ?

- A. Dasheri
- B. Desi
- C. Hybrid
- D. None

## **Answer: B**



# **51.** Vegetative reproduction of Agave occurs through

- A. rhizome
- B. stolen
- C. bulbils
- D. suckers

#### **Answer: C**



<b>52.</b> New Banana	plants	devel	op from

A. rhizome

B. suckers

C. stolons

D. seed

## **Answer: B**



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**53.** Tea and Cocoa are propagated by

- A. layering
- B. stem cuttings
- C. grafting
- D. bud grafting

## **Answer: B**



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**54.** In Lacerta saxicola armaniaca (lizard) there are

- A. females only
- B. males only
- C. bisexual only
- D. Both (1) and (2)

## **Answer: A**



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**55.** In which type of parthenogenesis, only males are produced ?

- A. Arrhenotocky
- B. Thelytoky
- C. Amphitoky
- D. Both (1) and (2)

## **Answer: A**



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56. Vegetative propagation plays a vital role in

A. sericulture

- B. apiculture
- C. sylviculture
- D. horticulture

#### **Answer: D**



- **57.** Adventive embryony in Citrus is due to
  - A. egg
  - B. nucellus

- C. embryo
- D. integument

**Answer: B** 



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**58.** After fertilization the ovary develops into

- A. seed
- B. fruit
- C. pericarp

D. stamens

**Answer: B** 



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**59.** Ginger multiplies vegetatively by

A. bud

B. tuber

C. corm

D. rhizome

#### **Answer: D**



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**60.** Layering is used for vegetative propagation of

- A. Jasmine
- B. Rose
- C. Mango
- D. all of the above

## **Answer: A**



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**61.** In vegetative propagation by tubers, which of following remains constant through generations?

- A. Morphology
- B. Vigour only
- C. Vigour and morphology only

D. Morphology, vigour and disease

resistance

**Answer: D** 



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**62.** Natural parthenogenesis is found in

A. aphids

B. honey bees

C. wasps

D. all the above

**Answer: D** 



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**63.** Stem cuttings are commonly used for the propagation of

A. Mango

B. Cotton

C. Rose

D. Banana

## **Answer: C**



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**64.** Mango and Guava are propagated through

A. tissue culture

B. grafting

C. stem cuttings

D. layering

### **Answer: B**



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## 65. First successful animal clone was

- A. 1)dolly goat
- B. 2)dolly sheep
- C. 3)molly goat
- D. 4)molly sheep

#### **Answer: B**

**66.** The terminal irreversiable stage of ageing is called

A. autogamy

B. syngamy

C. senescence

D. cytogames

**Answer: C** 



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**67.** Which type of binary fission occurs in paramecium

A. simple binary fission

B. longitudinal binary fission

C. transverse binary fission

D. oblique binary fission

**Answer: C** 



# 68. Plasmotomy occurs in

- A. 1)Hydra
- B. 2)Obelia
- C. 3)Opalina
- D. 4)Plasmodium

#### **Answer: C**



69. Gemmule formation occurs in

A. fresh water sponge

B. some marine spomges

C. Labeo rohita

D. Both (1) and (2)

## Answer: D



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70. Menstrual cycle occurs in

A. old world	monkeys

B. apes

C. humans

D. all of these

#### **Answer: D**



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71. Isogametes are present in

A. Fuccus

- B. Cladophora
- C. Frog
- D. Bird

#### **Answer: B**



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**72.** In grafting stock and scion ought to be joined

A. Phloem to phloem

- B. xylem to xylem
- C. pith to pith
- D. cambium to cambium



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**73.** Ramphotyphlops braminus produces females only by pathenogenesis. It is a

A. 1)snake

- B. 2)bird
- C. 3)frog
- D. 4)mammal



- **74.** Induction of rooting on stems before separating them from parent plant is
  - 1. grafting
  - 2. layering

- 3. root-stem joint
- 4. cutting
  - A. grafting
  - B. layering
  - C. root-stem joint
  - D. cutting

### **Answer: B**



- **75.** Grafting in sugarcane can not be performed because
- 1. vascular bundles are scattered
- 2. phloem is internal to xylem
- 3. sugarcane plant is delicate
- 4. it is unable to bear injury
  - A. vascular bundles are scattered
  - B. pholem is internal to xylem
  - C. sugarcane plant is delicate
  - D. it is unable to bear injury



- **76.** In a grafted plant, stock has 48 chromosomes while scion has 24 chromosomes. The chromosome number for root cells and eggs are
- a. 48 and 24
- b. 24 and 24
- c. 24 and 12
- d. 48 and 12

- A. 48 and 24
- B. 24 and 24
- C. 24 and 12
- D. 48 and 12



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**77.** Ramet is

A. clone

- B. callus
- C. cell aggregate
- D. individual member of clone



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**78.** Development of seed from an unfertilized egg is

A. vivipary

- B. pathenocarpy
- C. Apomixis
- D. apospory

#### **Answer: C**



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**79.** Which of the following groups of plants are propagated through underground root

A. Bryphyllum and Kalanchoe

- B. Pistia, Chrysanthemum and Pineapple
- C. Ginger, Potato, Onion, Zamikand
- D. Swee Potato, Asparagus, Tapioca and **Dahlia**



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**80.** A scion is grafted to a stock. The quality of fruits produced will be determined by the genotype of -

A. stock

B. scion

C. both stock and scion

D. neither stock nor scion

# Answer: B



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**81.** The living organism can be unexceptionally distinguished from the non-living things on the basis of their ability for

- A. reproduction
- B. growth and movement
- C. responsiveness to touch
- D. intersection with the environment and progressive evolution



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82. Maximum life span of Eagle is

- A. 90 years
- B. 15 years
- C. 10 years
- D. 5 years



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**83.** Male gametes in angiosperms are formed by the division of

- A. 1) vegetative cell
- B. 2)microspore mother cell
- C. 3)microspore
- D. 4)generative cell



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**84.** In which of the following organisms, self fertilization is seen ?

- A. Fish
- B. Roundworm
- C. Earthworm
- D. Tapeworm



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**85.** Which of the following animals is having longitudinal binary fission

- A. Euglena
- B. Plasmodium
- C. Planaria
- D. Paramecium



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**86.** These processes are necessary for the complete development of male gametophyte from pollen mother cell

- A. One meiotic and two mitotic divisons
- B. One meiotic cell divison and one mitotic and divison
- C. Two mieotic cell divisions and one mitotic cell divison
- D. Two mitotic cell divisions



**87.** From which cells peripheral region of radicle is produced

- A. vegetative cell
- B. Hypophysis
- C. Apical octant
- D. Micropylar octant

**Answer: B** 



**88.** It is a process of embryosac formation from cell of nucellus, without undergoing meiosis?

- A. Polyembryony
- B. Incompatibility
- C. Parthenocarpy
- D. Parthenogenesis

#### **Answer: D**



<b>89.</b> It ca	an regenerate	entire al	limentary	canal.
------------------	---------------	-----------	-----------	--------

- A. Amphibian
- B. Fish
- C. Sea cucumber
- D. Parthenogenesis

#### **Answer: C**



**90.** Spermatids are transformed into spermatozoa by

- A. spermatogenesis
- B. spermiogenesis
- C. Meiosis
- D. spermiation

#### **Answer:**



- 91. Study of pollen grain is called
- 1. Entomology
- 2. Palynology
- 3. Paleobotany
- 4. Co-taxonomy
  - A. Enthmology
  - B. Palynology
  - C. Paleobotany
  - D. Co-taxonomy

## Answer: B

## 92. Which is immortal?

- A. Plasma Cell
- B. Germ Cell
- C. Brain Cell
- D. Kidney Cell

**Answer: B** 



## 93. Monocarpic plant

- A. flowers twice in every year
- B. bears only one type of flower
- C. flowers once in every year
- D. dies after flowering once in its life cycle

#### **Answer: D**



# 94. Exponential growth occur in

- A. yeast
- B. asexual reproduction
- C. bacteria
- D. all of these

#### **Answer: B**



# 95. Vegetative propagation in mint occurs by

- A. 1.offset
- B. 2.rhizome
- C. 3.sucker
- D. 4.runner

#### **Answer: C**



# 96. Synergids are

- A. haploid
- B. diploid
- C. triploid
- D. tetraploid

#### **Answer: A**



# **97.** Match the items in column I with column II and choose the correct option

Column I	Column II
A Binary fission B Zoospore C Conidium D Budding E Gemmules	<ol> <li>Algae</li> <li>Amoeba</li> <li>Hydra</li> <li>Penicillium</li> <li>Sponge</li> </ol>

i. A-1, B-4, C-5, D-3

ii. A-2, B-1, C-4, D-3

iii. A-2, B-4, C-3, D-5

iv. A-1, B-4, C-3, D-2

A. A-1, B-4, C-5, D-3

B. A-2, B-1, C-4, D-3

C. A-2, B-4, C-3, D-5

D. A-1, B-4, C-3, D-2

#### **Answer: B**



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**98.** Which one of the following animals posesses high regeneration capacity?

A. 1)Planaria

- B. 2)Taenia
- C. 3)Salpa
- D. 4)Periplaneta



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**99.** Asexual reproduction in fungi takes place by

A. endospore

- B. gametangia
- C. exospores
- D. conidiospore



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**100.** Gymnosperms bear seeds but lack fruits

because they lack

A. cotyledon

- B. embryo
- C. ovary
- D. ovule

#### **Answer: C**



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**101.** Which one of the following processes results in the formation of clone of bacteria?

A. Binary fission

- B. Conjugation
- C. Transformation
- D. Transduction



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# **102.** Egg apparatus is

- A. an egg cell and two antipdals
- B. an egg cell and two synergids

- C. an egg cell and two polar nuclei
- D. an egg and the central cell

**Answer: B** 



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**103.** Breeding of crops with high levels of minerals vitamins and proteins called

- A. somatic hybridisation
- B. biofortification

- C. biomagnification
- D. micropropagation

## **Answer: B**



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**104.** Vegetative propagation in Pistia occurs by

- A. stolon
- B. offset
- C. runner

D. sucker

### **Answer: B**



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**105.** Which of the following is pollinated by

water

- 1. Viola
- 2. Yucca
- 3. Oxalis
- 4. Zostera

B. Yucca		
C. Oxalis		
D. Commelina		
Answer:		
Watch Video Solution		
<b>106.</b> Find out the wrongly matched pair		
A. tuber - potato		

A. Viola

- B. rhizome ginger
- C. bulbil- Agave
- D. leaf buds banana

#### **Answer: D**



- 107. The term parthenogenesis was coined by
  - A. Owen
  - B. Bovri

- C. Balfour
- D. Grobber

## **Answer: A**



- **108.** The offspring formed by asexual reproduction are identical and are referred to as
  - 1. Zoospores
  - 2. Clones

- 3. Conidia
- 4. Gemmules
  - A. Zoospores
  - B. Clones
  - C. Conidia
  - D. gemmules

## **Answer: B**



**109.** The tyep of pollinating involving transfer of pollen grains from answer of the stigma of the same flower is kown as

- A. geitonogamy
- B. xenogamy
- C. autogamy
- D. apogamy

## **Answer: C**



**110.** The stage between two meiotic division is called

- A. interphase
- B. cytokinesis
- C. interkinesis
- D. karyokinesis

**Answer: C** 



# **111.** Match list I with list II and select the correct option

	List I	List II
Α	Gemmules	1. Agave
В	Leaf-buds	<ol><li>Penicillium</li></ol>
С	Bulbil	3. Water hyacinth
D	Offset	4. Sponges
E	Conidia	5. Bryophyllum

- A. A-4, B-5, C-1, D-3,E-2
- B. A-4, B-3, C-2, D-1, E-5
- C. A-3, B-5, C-4, D-2, E-1
- D. A-4, B-1, C-5, D-3, E-2

### **Answer: A**

112. The chromosomal number in the meiocytes of housefly is:

A. 8

B. 12

C. 21

D. 23

**Answer: B** 



113. The 'Eyes' of the potato tuber are :-

A. root buds

B. flower buds

C. shoot buds

D. axillary buds

**Answer: D** 



**114.** Nuclear polyembryony is reported in species of

- A. Citrus
- B. Gossypium
- C. Triticum
- D. Brassica

**Answer: A** 



**115.** Biodiversity of a geographical region represents

A. endangered species found in the region

B. the diversity in the oragnisms living in the region

C. genetic diversity in the dominant species of the region

D. None of these

**Answer: B** 

## 116. Testa of seed develops from

- A. ovary wall
- B. hilum
- C. outer integument of ovule
- D. funicle

## **Answer: C**



**117.** ovule in which funicle, chalaza and micropyle occur in one vertical plane is

- A. 1)campylotropous
- B. 2) amphitropous
- C. 3)orthropous
- D. 4) anatropous

### **Answer: C**



118. Ovule integument	gets transformed	into
-----------------------	------------------	------

- A. seed
- B. fruit wall
- C. seed coat
- D. cotyledons

## **Answer: C**



**119.** Both, autogamy and geitonogamy are prevented in

A. Papaya

B. cucumber

C. castor

D. maize

**Answer: A** 



# 120. Dentrification is carried out by

- A. Pseudomonas
- B. Nitrobacter
- C. Nitrosomonas
- D. Nitrococcus

**Answer: A** 



**121.** In general, pollen tube enter the ovule through

A. micropyle

B. chalaza

C. hilum

D. funicle

**Answer: A** 



**122.** Transfer of pollen from anthers of one flower to the stigma of another flower of the same plant is

- A. 1)geitonogamy
- B. 2)xenogamy
- C. 3) cleistogamy
- D. 4) chasmogamy

## **Answer: A**



- A. hapolid
- B. diploid
- C. triploid
- D. tetraploid

### **Answer: C**



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124. The fleshy edible part of an apple is

- A. thalamus
- B. nucellus
- C. ovary
- D. endosperm

## **Answer: A**



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**125.** Why asexual reproduction is sometimes disadvantageous?

- A. It allows animals that do not move around to produce offspring without findingmate
  - B. it allows an animals to produce many offspring quickly
  - C. it save the time and energy of gamete production
- D. it produce genetically uniform populations

# Answer: D

# **126.** Meiosis takes place in

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

**Answer: C** 



- **127.** Monoecious plant of Chara shows occurrence of
  - A. Upper anatheridium and lower oogonium on the same plant
  - B. Upper oogonium and lower antheridium on the same plant
  - C. Antheridiphore and archegoniophore on the same plant
  - D. Staman and carpel on the same plant

### **Answer: B**



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**128.** Which one of the following is wrong about Chara

- A. 1)Globule is male reproductive structure
- B. 2)Upper oogonium and lower round antheridium

C. 3)Globule and nucule present on the same plant

D. 4)Upper antheridium and lower oogonium

## **Answer: D**



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**129.** In ginger , vegetative propagation occurs through :

- A. Offsets
- B. Bulbils
- C. Runners
- D. Rhizome

## **Answer: D**



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**130.** Which of the following pairs is not correctly matched?

Mode of reproduction	Example
(1) Offset	Water hyacinth
(2) Rhizome	Banana
(3) Binary fission	Sargassum
(4) Conidia	Penicillium

A

	Mode of reproduction	Example
	Offset	Water hyacinth
В.	Mode of reproduction	Example
	Rhizome	Banana
C.	Mode of reproduction	Example
	Mode of reproduction Binary fission	Sargassum
D.	Mode of reproduction	Example
	Conidia	Penicillium

## **Answer: C**



**131.** Which of the following flowers only once in its life-time

- A. Papaya
- B. Mango
- C. Jackfruit
- D. Bamboo species

**Answer: D** 

