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**CLASS 10 • BIOLOGY**

# Chapter 14

# Reproduction

**Complete Solved MCQ Bank**

**86 Solved MCQs**

**Detailed Explanations**

**Answers Highlighted**

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**1**

## Introduction & Asexual Reproduction

14 MCQs

**1** What is the primary significance of reproduction for a species?

**A** It ensures the survival of the individual.

**✓** **B** It ensures the continuation of the species.

**Correct**

**C** It helps in the growth of the individual.

**D** It is essential for respiration.

### **Explanation**

**Answer: B**

While an individual organism can survive without reproducing (as reproduction is not an essential life process for the individual), the species would cease to exist without it. Reproduction ensures that genetic material is passed to the next generation, securing the species' survival.

**2** Which of the following is NOT a fundamental characteristic of living things?

**A** Respiration

**B** Growth

**✓** **Reproduction**

**Correct**

**D** Movement

**💡 Explanation**

**Answer: C**

Reproduction is often listed as a characteristic of life, but it is not essential for the survival of an individual organism. An organism can live its entire life without reproducing, whereas processes like respiration and growth are essential for individual survival.

**3** In asexual reproduction, the offspring are:

**A** Genetically diverse

**✓** **Genetically identical to the parent**

**Correct**

**C** Genetically identical to each other but different from the parent

**D** Formed by the fusion of gametes

**💡 Explanation**

**Answer: B**

Asexual reproduction does not involve the fusion of gametes (sex cells). Because it relies on mitosis (cell division resulting in identical daughter cells), the offspring are clones and are genetically identical to the parent.

**4 Binary fission means:**

**A** Division into many parts

**✓** **Division into two parts**

**Correct**

**C** Budding from the parent

**D** Fusion of two cells

**💡 Explanation**

**Answer: B**

The term "binary" means two, and "fission" means division. Therefore, binary fission is the simplest form of asexual reproduction where a parent cell divides into two identical daughter cells.

**5 Which of the following organisms reproduces by binary fission?**

**A** Yeast

**✓** **Amoeba**

**Correct**

**C** Rhizopus

**D** Planaria

**💡 Explanation**

**Answer: B**

Amoeba is a unicellular eukaryote that reproduces asexually by binary fission. Yeast reproduces by budding, Rhizopus by spore formation, and Planaria by fragmentation.

**6** During binary fission in bacteria, the DNA is duplicated and:

- A** One copy moves to the nucleus
- B** Both copies remain in the center
- ✓ C** The two copies move to opposite poles
- D** The DNA is destroyed

**Correct**

**💡 Explanation**

**Answer: C**

In binary fission, after the DNA is duplicated, the two copies attach to the cell membrane and move towards opposite poles of the cell. This ensures each daughter cell receives one copy of the genetic material.

**7** Multiple fission is a common method of reproduction in Amoeba under:

- A** Favorable conditions
- ✓ B** Unfavorable conditions
- C** High temperatures only
- D** Abundant food supply

**Correct**

**💡 Explanation**

**Answer: B**

When conditions become unfavorable (e.g., lack of food, drought), Amoeba forms a hard protective wall called a cyst. Inside the cyst, the nucleus divides multiple times, producing many daughter nuclei, which are then released as multiple daughter amoebae when conditions improve.

**8** The hard wall formed by some unicellular organisms under unfavorable conditions is called:

**A** Sporangium

**✓ Cyst**

**Correct**

**C** Endospore

**D** Capsule

**💡 Explanation**

**Answer: B**

A cyst is a dormant, thick-walled structure formed by organisms like Amoeba to survive harsh environmental conditions. Once conditions become favorable, the cyst breaks open to release the offspring.

**9** Fragmentation is a mode of asexual reproduction observed in:

**A** Amoeba

**✓ Planaria**

**Correct**

**C** Yeast

**D** Bacteria

**💡 Explanation**

**Answer: B**

Fragmentation occurs when a mature organism breaks into two or more pieces, each of which develops into a new mature organism. Planaria (flatworms) commonly reproduce this way.

**10** In yeast, asexual reproduction occurs through:

- A** Binary fission
- B** Multiple fission
- ✓ Budding** Correct
- D** Spore formation

**💡 Explanation**

**Answer: C**

Yeast reproduces by budding. A small outgrowth (bud) forms on the parent cell, the nucleus divides, and one daughter nucleus moves into the bud. The bud eventually detaches to form a new yeast cell.

**11** In corals, the buds:

- A** Detach immediately and float away
- ✓ Never detach and form large colonies** Correct
- C** Die immediately after formation
- D** Develop into spores

**💡 Explanation**

**Answer: B**

Unlike Hydra, where buds detach, in corals, the buds remain attached to the parent body. This leads to the formation of large colonial structures.

**12** Spores are produced inside a structure called:

**A** Cyst

**✓ B** Sporangium

Correct

**C** Gametangium

**D** Conidiophore

**💡 Explanation**

Answer: B

In fungi like Rhizopus, specialized structures called sporangia (singular: sporangium) are formed at the tips of hyphae. Inside the sporangium, numerous spores are produced by repeated cell division.

**13** Bacterial spores are called endospores because they are formed:

**A** Outside the bacterial cell

**✓ B** Inside the bacterial cell

Correct

**C** In the soil

**D** In water

**💡 Explanation**

Answer: B

Endospores are thick-walled, highly resistant structures formed inside the bacterial cell (endo = inside). They allow bacteria like Clostridium and Bacillus to survive extreme conditions.

**14** Parthenogenesis is a form of asexual reproduction where:

☒ **An unfertilized egg develops into a new offspring**

**Correct**

**B** A fertilized egg develops into an offspring

**C** The body breaks into fragments

**D** Spores are released

**💡 Explanation**

**Answer: A**

Parthenogenesis ("virgin birth") is a type of reproduction where an egg cell develops into a new individual without being fertilized by a sperm. A common example is the development of male drones from unfertilized eggs in honeybees.

**2** **Vegetative Propagation in Plants**

**12 MCQs**

**15** Which of the following is a natural method of vegetative propagation in plants?

**A** Cuttings

**B** Grafting

**C** Tissue culture

☒ **Bulbs**

**Correct**

**💡 Explanation**

**Answer: D**

Bulbs are natural vegetative structures. Cuttings, grafting, and tissue culture are artificial methods used by humans to propagate plants.

**16** Onion reproduces naturally through:

**A** Corms

**B** Rhizomes

**✓** **Bulbs**

Correct

**D** Stem tubers

**💡 Explanation**

Answer: C

Onions reproduce via bulbs, which are short underground stems surrounded by thick, fleshy leaves that store food. Adventitious roots grow from the base, and shoots emerge from the top.

**17** Ginger is an example of a plant that propagates through:

**✓** **Rhizome**

Correct

**B** Corm

**C** Bulb

**D** Sucker

**💡 Explanation**

Answer: A

Ginger has a horizontal underground stem called a rhizome. It has nodes, scale leaves, and buds that grow into new plants.

**18** Which of the following plants reproduces through corms?

**A** Potato

**B** Ginger

**✓ Colocasia**

**Correct**

**D** Mint

**💡 Explanation**

**Answer: C**

Corms are short, swollen underground stems that store food (e.g., Colocasia, Dasheen, Garlic). Potato reproduces via stem tubers, Ginger via rhizomes, and Mint via suckers.

**19** The "eyes" of a potato are actually:

**A** Roots

**✓ Aggregations of tiny buds**

**Correct**

**C** Spores

**D** Storage organs

**💡 Explanation**

**Answer: B**

The "eyes" on a potato tuber are nodes containing groups of buds. Each eye can sprout and grow into a new potato plant.

**20** Bryophyllum reproduces vegetatively through its:

**A** Roots

**B** Stems

**✓** **Leaves**

**Correct**

**D** Flowers

**💡 Explanation**

**Answer: C**

Bryophyllum (Pathar chut) has fleshy leaves with adventitious buds present at the margins. When these leaves fall on the ground, the buds grow into new plants.

**21** Mint reproduces naturally through:

**✓** **Suckers**

**Correct**

**B** Tubers

**C** Bulbs

**D** Corms

**💡 Explanation**

**Answer: A**

Suckers are lateral stems that grow close to the ground level. They grow underground for some distance and then turn up, producing new plants. Mint and Chrysanthemum reproduce this way.

**22** In artificial vegetative propagation, a cutting must have a:

**A** Flower

**✓ Meristematic region**

**Correct**

**C** Large root system

**D** Thick stem

**💡 Explanation**

**Answer: B**

For a cutting to successfully grow into a new plant, it must contain a meristematic region (actively dividing cells) from which new roots and shoots can develop.

**23** The process of joining a piece of stem from one plant to another rooted plant is called:

**A** Cutting

**✓ Grafting**

**Correct**

**C** Layering

**D** Tissue culture

**💡 Explanation**

**Answer: B**

Grafting involves cutting a stem from a desired plant (scion) and attaching it to a rooted plant (stock). The vascular bundles eventually connect, allowing the scion to grow.

**24** Tissue culture is also known as:



**Micro-propagation**

**Correct**

**B**

Macro-propagation

**C**

Grafting

**D**

Cutting



**Explanation**

**Answer: A**

Tissue culture is called micro-propagation because it uses very small pieces of plant tissue (explants) to produce identical offspring in a sterile, nutrient-rich medium.

**25** The mass of undifferentiated cells produced during tissue culture is called:



**Callus**

**Correct**

**B**

Zygote

**C**

Embryo

**D**

Gamete



**Explanation**

**Answer: A**

When plant tissue is placed in a nutrient medium, the cells divide to form an unorganized mass of cells called a callus. Hormones are then added to this callus to induce the formation of roots and shoots.

**26** A major disadvantage of vegetative propagation is:

**A** It is a slow process

**✓** **Offspring are genetically identical and susceptible to diseases**

**Correct**

**C** It requires pollinators

**D** It produces seeds

**💡 Explanation**

**Answer: B**

Because vegetative propagation produces clones, there is no genetic variation. If a disease strikes, it can wipe out the entire genetically uniform crop.

3

## Sexual Reproduction in Plants

14 MCQs

**27** The alternation of generations in plants refers to the alternation between:

- ☐ A Male and female gametes
- ☒ B Sporophyte and gametophyte generations
- ☐ C Asexual and sexual reproduction
- ☐ D Roots and shoots

Correct

### Explanation

Answer: B

The life cycle of plants involves an alternation between a diploid ( $2n$ ) sporophyte generation, which produces spores by meiosis, and a haploid ( $n$ ) gametophyte generation, which produces gametes by mitosis.

**28** In angiosperms, the dominant generation is the:

- ☐ A Gametophyte
- ☒ B Sporophyte
- ☐ C Zygote
- ☐ D Spore

Correct

### Explanation

Answer: B

In flowering plants (angiosperms), the sporophyte generation (the plant itself) is dominant, large, and independent. The gametophyte generation is highly reduced and dependent on the sporophyte.

**29** The outermost whorl of a flower is called:

**A** Corolla

**✓ B** Calyx

Correct

**C** Androecium

**D** Gynoecium

**Explanation**

Answer: B

The calyx is the outermost whorl of a flower. It consists of sepals, which are usually green and protect the inner floral parts during the bud stage.

**30** The male reproductive part of a flower is the:

**A** Gynoecium

**B** Corolla

**✓ C** Androecium

Correct

**D** Calyx

**Explanation**

Answer: C

The androecium is the male reproductive whorl of a flower, consisting of stamens. Each stamen has an anther (which produces pollen) and a filament.

**31** The female reproductive part of a flower is the:

**A** Androecium

**✓ Gynoecium**

**Correct**

**C** Corolla

**D** Calyx

**💡 Explanation**

**Answer: B**

The gynoecium is the female reproductive whorl, composed of carpels (or pistils). A carpel consists of the stigma, style, and ovary.

**32** The transfer of pollen grains from the anther to the stigma of the same flower or another flower on the same plant is called:

**A** Cross pollination

**✓ Self pollination**

**Correct**

**C** Fertilization

**D** Germination

**💡 Explanation**

**Answer: B**

Self-pollination involves the transfer of pollen within the same flower or between flowers of the same plant. Cross-pollination involves transfer between different plants of the same species.

**33** Which of the following is an adaptation of wind-pollinated flowers?

- A** Brightly colored petals
- B** Production of nectar
- C** Feathery stigma
- D** Heavy, sticky pollen grains

**Correct**



**Explanation**

**Answer: C**

Wind-pollinated flowers do not rely on insects. They produce large amounts of lightweight pollen. Their stigmas are often feathery to catch pollen drifting in the wind.

**34** Double fertilization in plants involves the fusion of:

☒ **A** One sperm with the egg and another sperm with the endosperm nucleus

Correct

☐ **B** Two sperms with two eggs

☐ **C** Two sperms with the endosperm nucleus

☐ **D** One sperm with the egg only

 **Explanation**

Answer: A

Double fertilization is a unique feature of angiosperms. One sperm fuses with the egg to form the diploid zygote, while the second sperm fuses with the diploid fusion nucleus to form the triploid (3N) endosperm nucleus.

**35** After fertilization, the ovule develops into a:

☐ **A** Fruit

☒ **B** Seed

Correct

☐ **C** Flower

☐ **D** Ovary

 **Explanation**

Answer: B

Following fertilization, the ovule matures into a seed, containing the embryo and stored food. The ovary surrounding the ovule develops into the fruit.

**36** The development of fruit without fertilization is known as:

**A** Parthenogenesis

**✓ Parthenocarp**

**Correct**

**C** Apomixis

**D** Double fertilization

**💡 Explanation**

**Answer: B**

Parthenocarp is the natural or artificial production of fruit without fertilization of the ovules. This results in seedless fruits like bananas and some varieties of grapes.

**37** The scar on a seed coat where it was attached to the ovary wall is called:

**A** Micropyle

**✓ Hilum**

**Correct**

**C** Radicle

**D** Plumule

**💡 Explanation**

**Answer: B**

The hilum is the scar on the seed coat that marks the point of attachment of the seed to the fruit (ovary wall). The micropyle is a small opening for water absorption.

**38** The part of the plant embryo that develops into the new root is the:

**A** Plumule

**✓ Radicle**

Correct

**C** Cotyledon

**D** Epicotyl

**Explanation**

Answer: B

The radicle is the embryonic root. It is the first part to emerge during germination, growing downwards to anchor the plant and absorb water and nutrients.

**39** In epigeal germination:

**A** Cotyledons remain underground

**✓ Hypocotyl elongates and pulls cotyledons above ground**

Correct

**C** Epicotyl elongates and pushes cotyledons underground

**D** The seed does not germinate

**Explanation**

Answer: B

In epigeal germination (e.g., beans, cotton), the hypocotyl (the stem below the cotyledons) elongates rapidly, forming a hook that pulls the cotyledons above the soil surface.

**40** Which of the following is NOT a condition necessary for seed germination?

**A** Water

**B** Oxygen

**C** Suitable temperature

**✓ Light**

**Correct**

**Explanation**

**Answer: D**

While light can influence germination in some plants, it is not a universal requirement. Water, oxygen, and a suitable temperature are essential for all seeds to break dormancy and initiate germination.

**4**

**Sexual Reproduction in Animals & Rabbit Anatomy**

**12 MCQs**

**41** The formation of gametes in animals is called:

**✓ Gametogenesis**

**Correct**

**B** Fertilization

**C** Cleavage

**D** Gestation

**Explanation**

**Answer: A**

Gametogenesis is the biological process by which diploid or haploid precursor cells undergo cell division and differentiation to form mature haploid gametes (sperms and eggs).

**42** Spermatogenesis occurs in the:

**A** Ovaries

**✓ B** Testes

**Correct**

**C** Fallopian tubes

**D** Uterus

**💡 Explanation**

**Answer: B**

Spermatogenesis is the production of sperm cells, which occurs in the seminiferous tubules of the male gonads, the testes.

**43** Oogenesis occurs in the:

**A** Testes

**✓ B** Ovaries

**Correct**

**C** Cervix

**D** Vas deferens

**💡 Explanation**

**Answer: B**

Oogenesis is the production of egg cells (ova), which takes place in the female gonads, the ovaries.

**44** The smaller cell produced during meiosis I in oogenesis is called:

**A** Secondary oocyte

**✓** **First polar body**

**Correct**

**C** Egg cell

**D** Spermatid

**💡 Explanation**

**Answer: B**

During oogenesis, the primary oocyte divides unequally during meiosis I. The larger cell becomes the secondary oocyte, while the smaller cell, which receives very little cytoplasm, is called the first polar body.

**45** External fertilization occurs mostly in:

**A** Reptiles

**B** Birds

**✓** **Aquatic environments**

**Correct**

**D** Mammals

**💡 Explanation**

**Answer: C**

External fertilization requires a watery environment for the sperm to swim to the egg. It is common in fish and amphibians, where gametes are released into the water.

**46** In which of the following animals does internal fertilization occur?

**A** Fish

**B** Frogs

 **Reptiles**

**Correct**

**D** Starfish

 **Explanation**

**Answer: C**

Reptiles, birds, and mammals practice internal fertilization, where the male deposits sperm directly into the female's reproductive tract. This protects the gametes from drying out and predators.

**47** The male reproductive system of a rabbit includes a pair of:

**A** Ovaries

 **Testes**

**Correct**

**C** Uterus

**D** Fallopian tubes

 **Explanation**

**Answer: B**

The male rabbit has a pair of testes located in the scrotum, which are responsible for producing sperm and male hormones.

**48** The sperms are stored and mature in the:

**A** Vas deferens

**✓ B** Epididymis

**Correct**

**C** Prostate gland

**D** Urethra

**💡 Explanation**

**Answer: B**

After being produced in the testes, sperm pass into the epididymis, a coiled tube where they undergo further maturation and are stored until ejaculation.

**49** The fluid containing sperm and secretions from accessory glands is called:

**A** Urine

**✓ B** Semen

**Correct**

**C** Blood

**D** Hormone

**💡 Explanation**

**Answer: B**

Semen is the fluid ejaculated during mating. It consists of sperm (about 10%) and fluids (about 90%) secreted by glands like the seminal vesicles, prostate gland, and Cowper's glands, which nourish and protect the sperm.

**50** In the female rabbit, fertilization normally occurs in the:

**A** Uterus

**B** Ovary

 **Fallopian tubes**

**Correct**

**D** Vagina

 **Explanation**

**Answer: C**

After ovulation, the egg is released into the fallopian tube. It is within the fallopian tube that the sperm meets and fertilizes the egg, forming a zygote.

**51** The organ where the embryo develops in a rabbit is the:

**A** Ovary

 **Uterus**

**Correct**

**C** Cervix

**D** Fallopian tube

 **Explanation**

**Answer: B**

The uterus is a muscular organ where the fertilized egg implants and develops into a fetus. It provides a safe environment and nourishment for the growing embryo.

**52** The connection between the embryo and the uterine wall in mammals is called the:

**A** Cervix

**✓ Placenta**

Correct

**C** Fallopian tube

**D** Scrotum

**Explanation**

Answer: B

The placenta is a specialized organ that develops during pregnancy. It attaches the embryo to the uterine wall and facilitates the exchange of nutrients, gases, and waste products between the mother and the fetus.

**5 Human Population & AIDS**

8 MCQs

**53** When population growth exceeds the carrying capacity of an environment, it results in:

**✓ Overpopulation**

Correct

**B** Underpopulation

**C** Optimum population

**D** Decreased pollution

**Explanation**

Answer: A

Overpopulation occurs when the number of people exceeds the carrying capacity of the environment, meaning there are not enough resources (food, water, space) to sustain them.

**54** Which of the following is a consequence of overpopulation?

**A** Abundance of fresh water

**✓** **Deforestation and loss of ecosystems**

**Correct**

**C** Decreased pollution

**D** High infant survival rates

**💡 Explanation**

**Answer: B**

Overpopulation puts immense pressure on natural resources. Forests are cleared for housing and agriculture (deforestation), leading to habitat loss and ecosystem destruction.

**55** AIDS stands for:

**✓** **Acquired Immune Deficiency Syndrome**

**Correct**

**B** Acquired Immunity Deficiency Syndrome

**C** Acute Immune Disease Syndrome

**D** Auto Immune Deficiency Syndrome

**💡 Explanation**

**Answer: A**

AIDS is the medical condition caused by the Human Immunodeficiency Virus (HIV). It stands for Acquired Immune Deficiency Syndrome, characterized by a severely weakened immune system.

**56** AIDS is caused by:

**A** Bacteria

**B** Fungus

**✓** **Human Immunodeficiency Virus (HIV)**

**Correct**

**D** Protozoa

**💡 Explanation**

**Answer: C**

AIDS is a viral disease caused by HIV. The virus attacks and destroys white blood cells (specifically CD4+ T cells), crippling the body's immune system.

**57** The most common mode of HIV transmission is:

**A** Mosquito bites

**✓** **Unprotected sexual activities**

**Correct**

**C** Sharing food

**D** Coughing and sneezing

**💡 Explanation**

**Answer: B**

HIV is a sexually transmitted disease (STD). It spreads through the transfer of bodily fluids such as blood and semen, most commonly through unprotected sexual intercourse, sharing infected needles, or transfusion of infected blood.

**58** The National AIDS Control Programme (NACP) was established in Pakistan in:



**1987**

Correct



**1990**



**2005**



**1970**



### Explanation

Answer: A

Pakistan's Federal Ministry of Health established the NACP in 1987. Its primary objective is to prevent HIV transmission, ensure safe blood transfusions, and reduce the incidence of STDs.

**59** According to UNAIDS estimates, how many adults in Pakistan are infected with HIV?



**1 million**



**70,000 to 80,000**

Correct



**500,000**



**5 million**



### Explanation

Answer: B

The text states that UNAIDS estimates around 70,000 to 80,000 people, or 0.1 percent of the adult population in Pakistan, are infected with HIV.

**60** Which international organization works for population and health programmes globally?

**A** WHO

**B** UNICEF

**✓** **C** UNFPA

Correct

**D** UNESCO

**💡 Explanation**

**Answer: C**

The United Nations Population Fund (UNFPA) began operations in 1969. It is the largest international organization providing funding for population and health programmes, working in over 140 countries to raise awareness about overpopulation.

6

## Advanced & Conceptual Questions

26 MCQs

**61** Why do farmers prefer vegetative propagation for certain crops?

**A** It produces genetically diverse crops.

**✓** **It is faster and produces identical, high-quality offspring.**

**Correct**

**C** It requires pollinators.

**D** It produces seeds that can be stored.

### **Explanation**

**Answer: B**

Vegetative propagation allows farmers to rapidly increase the stock of a plant with desirable traits. Because the offspring are clones, they retain the exact characteristics of the parent (e.g., seedless oranges).

**62** Which structure in a flower protects the inner whorls at the bud stage?

**A** Corolla

**✓** **Calyx**

**Correct**

**C** Androecium

**D** Gynoecium

### **Explanation**

**Answer: B**

The calyx, composed of sepals, is the outermost whorl. Its primary function is to protect the delicate inner parts of the flower (petals, stamens, and carpels) while it is still a bud.

**63** The generative nucleus in a pollen grain divides to form:

**A** Two tube nuclei

**✓** **Two sperm cells**

**Correct**

**C** One egg cell

**D** One endosperm nucleus

**💡 Explanation**

**Answer: B**

When a pollen grain germinates, its generative nucleus undergoes mitosis to produce two male gametes (sperm cells). These sperm cells travel down the pollen tube to participate in double fertilization.

**64** What is the ploidy (chromosome number) of the endosperm nucleus in angiosperms?

**A** Haploid ( $n$ )

**B** Diploid ( $2n$ )

**✓** **Triploid ( $3n$ )**

**Correct**

**D** Tetraploid ( $4n$ )

**💡 Explanation**

**Answer: C**

The endosperm nucleus is formed by the fusion of one sperm ( $n$ ) with the diploid fusion nucleus ( $2n$ ) in the embryo sac. This results in a triploid ( $3n$ ) nucleus, which develops into the nutrient-rich endosperm tissue.

**65** Which of the following is an example of a seed that exhibits hypogeal germination?

**A** Bean

**B** Cotton

**✓** **C** Pea

Correct

**D** Papaya

**Explanation**

Answer: C

In hypogeal germination, the epicotyl elongates and the cotyledons remain underground. Pea, maize, and coconut are examples of plants that exhibit hypogeal germination.

**66** The period during which seeds do not germinate even if conditions are favorable is called:

**A** Germination

**✓** **Dormancy**

Correct

**C** Fertilization

**D** Pollination

**Explanation**

Answer: B

Seed dormancy is a period of suspended growth. Dormant seeds are ripe and alive but will not germinate until specific internal or external conditions (like a period of cold or scarification) are met.

**67** Which part of the flower develops into the fruit?

**A** Ovule

**✓** **Ovary**

**Correct**

**C** Stigma

**D** Style

**💡 Explanation**

**Answer: B**

After fertilization, the ovary wall thickens and develops into the fruit, which protects the developing seeds inside. The ovules themselves develop into the seeds.

**68** In rabbits, the male reproductive system includes a gland that neutralizes the acidity of the fluid. This is the:

**A** Seminal vesicle

**✓** **Prostate gland**

**Correct**

**C** Cowper's gland

**D** Epididymis

**💡 Explanation**

**Answer: B**

The prostate gland produces a secretion that neutralizes the acidity of the vaginal fluid, creating a more favorable environment for sperm survival and motility.

**69** What is the role of the placenta in mammalian reproduction?

- A** It produces sperm.
- B** It is the site of fertilization.
- C** It facilitates nutrient and gas exchange between the mother and fetus.
- D** It stores urine.

Correct



### Explanation

Answer: C

The placenta is a temporary organ that connects the developing fetus to the uterine wall. It allows the fetus to receive oxygen and nutrients from the mother's blood and eliminate waste products.

**70** What is the main objective of the National AIDS Control Programme (NACP) in Pakistan?

**A** To provide free medicine to all citizens.

**✓** **To prevent HIV transmission and ensure safe blood transfusions.**

**Correct**

**C** To build more hospitals.

**D** To promote tourism.

**💡 Explanation**

**Answer: B**

Established in 1987, the NACP focuses on public awareness, prevention of HIV transmission, ensuring safe blood transfusions, and reducing the incidence of sexually transmitted diseases.

**71** Binary fission in bacteria differs from binary fission in Amoeba because:

**A** Bacteria do not divide their DNA.

**✓** Amoeba undergoes mitosis, while bacteria do not.

Correct

**C** Amoeba divides into multiple cells.

**D** Bacteria divide by meiosis.

**💡 Explanation**

Answer: B

Amoeba is a eukaryote, so its nucleus divides by mitosis before the cytoplasm divides. Bacteria are prokaryotes and lack a true nucleus, so they undergo a simpler process of DNA replication and segregation without mitosis.

**72** Which of the following is a disadvantage of tissue culture?

- A** It is a very slow process.
- B** It requires sophisticated equipment and sterile conditions.
- C** It produces genetically diverse plants.
- D** It can only be done in soil.

Correct

**Explanation**

Answer: B

Tissue culture is highly technical and expensive. It requires a sterile laboratory environment, specific nutrient media, and hormones, making it less accessible to ordinary farmers compared to traditional methods.

**73** The micropyle in a seed is important for:

**A** Photosynthesis

**✓** Absorption of water during germination

**Correct**

**C** Attracting pollinators

**D** Storing food

**💡 Explanation**

**Answer: B**

The micropyle is a tiny pore in the seed coat. It is the opening through which the pollen tube entered the ovule before fertilization. During germination, it serves as the primary channel for water absorption.

**74** Which of the following statements about asexual reproduction is TRUE?

**A** It involves the fusion of male and female gametes.

**✓** It produces offspring that are genetically identical to the parent.

**Correct**

**C** It is the only method of reproduction in plants.

**D** It always requires two parents.

**💡 Explanation**

**Answer: B**

Asexual reproduction does not involve gametes or fertilization. It relies on mitosis, producing offspring that are exact genetic copies (clones) of the single parent involved.

**75** In honeybees, male drones are produced by:

**A** Fertilized eggs

☒ **Parthenogenesis**

**Correct**

**C** Budding

**D** Fragmentation

 **Explanation**

**Answer: B**

In honeybees, the queen lays both fertilized and unfertilized eggs. Fertilized eggs develop into diploid females (queens or workers), while unfertilized eggs develop into haploid males (drones) through parthenogenesis.

**76** The transfer of pollen grains from the anther to the stigma of a flower on a different plant of the same species is called:

**A** Self pollination

☒ **Cross pollination**

**Correct**

**C** Fertilization

**D** Germination

 **Explanation**

**Answer: B**

Cross-pollination involves the transfer of pollen between different plants of the same species. This promotes genetic diversity, unlike self-pollination which occurs within the same plant.

**77** Which of the following is an example of an insect-pollinated flower?

**A** Grass

**B** Hazel

**✓** **Sunflower**

**Correct**

**D** Corn

**💡 Explanation**

**Answer: C**

Sunflowers are brightly colored, produce nectar, and have large, sticky pollen grains, all of which are adaptations to attract insect pollinators. Grasses, hazel, and corn are wind-pollinated.

**78** The epicotyl is the part of the embryo:

**A** Below the point of attachment of cotyledons

**✓** **Above the point of attachment of cotyledons**

**Correct**

**C** That develops into the root

**D** That stores food

**💡 Explanation**

**Answer: B**

The epicotyl is the embryonic stem above the cotyledons. It develops into the shoot system (leaves and upper stem) of the plant. The hypocotyl is below the cotyledons.

**79** Which of the following organisms forms endospores?

**A** Rhizopus

**B** Amoeba

**✓** **Clostridium**

Correct

**D** Yeast

**Explanation**

Answer: C

Clostridium and Bacillus species are bacteria that form thick-walled endospores inside their cells to survive unfavorable conditions. Rhizopus forms sporangia, Amoeba forms cysts, and Yeast forms buds.

**80** The carrying capacity of an environment refers to:

**A** The maximum number of species it can hold.

**✓** **The maximum population size an environment can sustain indefinitely.**

Correct

**C** The amount of water available.

**D** The rate of reproduction.

**Explanation**

Answer: B

Carrying capacity is the maximum number of individuals of a species that an environment can support without degrading the environment. When a population exceeds this, overpopulation occurs.

**81** Which of the following is an artificial method of vegetative propagation that involves growing plant cells in a laboratory?

**A** Grafting

**B** Cuttings

**✓** **Tissue culture**

**Correct**

**D** Layering

**Explanation**

**Answer: C**

Tissue culture (micro-propagation) is a laboratory technique where a small piece of plant tissue is grown in a sterile nutrient medium to produce many identical plantlets.

**82** In the male reproductive system of a rabbit, the urethra serves as a passage for:

**A** Only sperm

**B** Only urine

**✓** **Both sperm and urine**

**Correct**

**D** Only hormones

**Explanation**

**Answer: C**

The urethra is a tube that carries urine from the bladder to the outside. In male mammals, it also serves as the passage for semen (containing sperm) during ejaculation.

**83** The production of ova in the ovaries is called:

**A** Spermatogenesis

**✓** **Oogenesis**

**Correct**

**C** Gestation

**D** Ovulation

**💡 Explanation**

**Answer: B**

Oogenesis is the specific term for the process of female gamete (egg/ovum) formation, which occurs within the follicles of the ovaries.

**84** Which of the following is a symptom of AIDS?

**A** Increased white blood cell count

**✓** **Loss of resistance against infections**

**Correct**

**C** Enhanced immunity

**D** Increased appetite

**💡 Explanation**

**Answer: B**

HIV attacks and destroys white blood cells, which are crucial for the immune system. As a result, the body loses its ability to fight off infections, making the person vulnerable to opportunistic diseases.

**85** Why are seedless fruits like bananas preferred by consumers?

- A** They are genetically diverse.
- ✓** **They are easier to eat and more convenient.** Correct
- C** They have a longer shelf life.
- D** They are produced through pollination.

**💡 Explanation**

**Answer: B**

Seedless fruits (produced through parthenocarpy or vegetative propagation) are preferred by consumers because they are convenient to eat, have more edible flesh per fruit, and are aesthetically pleasing.

**86** Which of the following structures is NOT part of the female reproductive system of a rabbit?

- A** Fallopian tube
- B** Uterus
- ✓** **Vas deferens** Correct
- D** Ovary

**💡 Explanation**

**Answer: C**

The vas deferens is part of the male reproductive system, responsible for transporting sperm from the epididymis to the urethra. The fallopian tubes, uterus, and ovaries are female reproductive organs.



# Keep Learning, Keep Rising!

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Thank you for studying Chapter 14: Reproduction with us.  
Revise these MCQs regularly and aim higher every day.

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