



UNIQUE STUDY POINT
IMP QUESTIONS: CLASS x
HOW DO ORGANISM REPRODUCE?

1

There are four tiny organisms A, B, C and D. The organism A is a parasitic protozoan which causes a disease known as *kala-azar*. The organism B is a microscopic single-celled animal which causes malaria disease in human beings. The organism C is a unicellular animal which can change its body shape according to need, it has no fixed shape. The organism D is also a unicellular animal which is slipper-shaped having a large number of tiny hair all around its body.

- (a) Name the organisms A, B, C and D
- (b) Name one characteristic body feature of organism A.
- (c) Name the insect which carries organism B and transmits it from one person to another.
- (d) What name is given to the asexual method of reproduction of (i) organism A, and (ii) organism B?
- (e) Where do organisms C and D live?

ANSWER:

- (a) The organism A is *Leishmania*, B is *Plasmodium*, C is *Amoeba* and D is *Paramecium*.
- (b) One body feature of organism A is that it has a whip-like structure called flagellum at one end.
- (c) Female *Anopheles* mosquito carries the organism B and transmits it from one person to another.
- (d) (i) Organism A reproduces by binary fission.
- (ii) Organism B reproduces by multiple fission.
- (e) Organisms C and D are found in ponds.

2

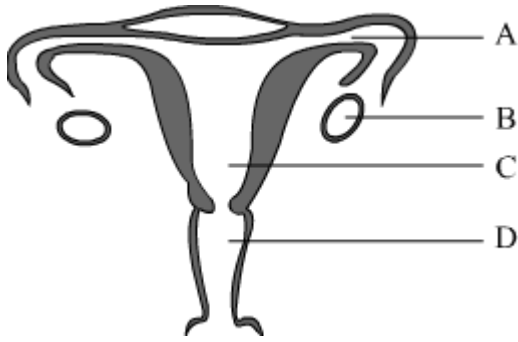
A worm X found in freshwater and slow-moving streams has been accidentally cut into three pieces. It was observed that in due course of time, each cut piece of the worm develops to become a complete worm by growing all the missing parts.

- (a) Name the worm X which can exhibit this phenomenon of making complete worm from its cut body parts.
- (b) Name another organism Y which possesses the same characteristic of growing fully from its cut body parts.
- (c) What is the name of this process in which a complete organism is formed from its cut body part.
- (d) State whether X and Y are unicellular and/or multicellular organisms.
- (e) Can a dog be produced completely from its cut body part (say, a cut tail) just like organisms X and Y? Why?

ANSWER:

- (a) The worm X is *Planaria*.
- (b) The organism Y which possesses the same characteristic as of X is *Hydra*.
- (c) The process in which a complete organism is formed from a lost body part of its parent is regeneration.
- (d) X and Y are multicellular organisms.
- (e) A dog cannot be produced from a lost body part like its tail, as this animal has a high degree of organisation in its body.

3	<p>Fill in the following blanks with suitable words:</p> <p>(a) Pollen grains contain gametes of a plant. (b) Ovules contain gametes of a plant. (c) The ovary of a flower becomes after fertilisation. (d) The ovule becomes a after fertilisation. (e) Flowering plants reproduce bymethod of reproduction. (f) The female organ of reproduction in the flower is the..... (g) The male organ of reproduction in the flower is the..... . (h) The name of the structure in the flower in which the male gamete is formed is..... (i) The..... at the base of the carpel contains egg cells. (j) The term used to refer to the transfer of pollen from the stamen of one flower to the carpel of another flower of the same species is..... (k) The cells involved in sexual reproduction are called (l) Fusion of gametes gives rise to a single cell called (m) The process of fusion of gametes is called (n) A multicellular animal starts its life from a through sexual reproduction. (o) The union of a sperm nucleus with an egg nucleus is known as..... and results in aegg. (p) The menstrual cycle is controlled by.....</p> <p>ANSWER:</p> <p>(a) Pollen grains contain <u>male</u> gametes of a plant. (b) Ovules contain <u>female</u> gametes of a plant. (c) The ovary of a flower becomes a <u>fruit</u> after fertilisation. (d) The ovule becomes a <u>seed</u> after fertilisation. (e) Flowering plants reproduce by the <u>sexual</u> method of reproduction. (f) The female reproductive organ of a flower is <u>carpel</u>. (g) The male sex organ of a flower is <u>stamen</u>. (h) The structure of a flower in which the male gamete is formed is <u>pollen</u>. (i) The <u>ovary</u> at the base of the carpel contains egg cells. (j) The term used to refer to the transfer of pollen from the stamen of one flower to the carpel of another flower of the same species is <u>pollination</u>. (k) The cells involved in sexual reproduction are called <u>gametes</u>. (l) Fusion of gametes gives rise to a single cell called <u>zygote</u>. (m) The process of fusion of gametes is called <u>fertilisation</u>. (n) A multicellular animal starts its life from a <u>zygote</u> in sexual reproduction. (o) The union of a sperm nucleus with an egg nucleus is known as <u>fertilisation</u> and it results in a <u>diploid</u> egg. (p) The menstrual cycle is controlled by <u>hormones</u>.</p>
4	<p>The diagram shows female reproductive system. Name the parts labelled A to D.</p> <p>(a) In which part do the sperms enter? (b) Which part releases the egg? (c) In which part does fertilisation take place? (d) In which part does the foetus develop?</p>



ANSWER:

Part A is the oviduct; B is the ovary; C is the uterus and D is the vagina.

- (a) Sperms enter through the vagina (D).
- (b) The ovary (B) releases the eggs.
- (c) Fertilisation takes place in the oviduct (A).
- (d) The foetus develops in the uterus (C).

5

The correct sequence of organs in the male reproductive system for the transport of sperms is:

- (a) testis → vas deferens → urethra
- (b) testis → ureter → urethra
- (c) testis → urethra → ureter
- (d) testis → vas deferens → ureter

ANSWER:

- (a) testis → vas deferens → urethra

Sperms are produced in the testis and then carried away by the vas deferens to the urethra.

6

In human males, the testes lie in the scrotum outside the body because it helps in the

- (a) process of mating
- (b) formation of sperms
- (c) easy transfer of sperms
- (d) all the above

ANSWER:

- (b) formation of sperms

The testes lie outside the body in the scrotum because sperm production requires low temperature, which is provided by the scrotum.

7

During adolescence, several changes occur in the human body. Mark one change from the following associated with sexual maturation in boys :

- (a) loss of milk teeth
- (b) increase in height
- (c) cracking of voice
- (d) weight gain

ANSWER:

	<p>(c) cracking of voice Cracking of voice in males is brought about by the male hormone testosterone, which is produced after sexual maturation.</p>
8	<p>When an insect sits on the flower of a plant then some particles A present in the top of little stalks in the flower attach to its body hair. When this insect now sits on the flower of another similar plant, then particles A attached to the hair of insect are put on the top of a flask-shaped organ at the centre of flower. The particle A grows a long tube B from the top of flask-shaped organ through which C moves down and reaches the bottom part of flask-shaped organ. Here C fuses with the nucleus of D contained in structure E. The fusion of C and D forms a new cell F which grows and develops into a seed of the plant.</p> <p>(a) What are particles A? What is the process of transferring A from one flower to another flower of similar plant by the insect known as? (b) What is the name of tube B? (c) What is C which moves down through the tube B? (d) Name D and E. (e) What is F?</p> <p>ANSWER:</p> <p>(a) A represents pollen grains. The process of transferring pollen grains from one flower to another flower of the similar plant by insects is known as cross pollination. (b) B represents the pollen tube. (c) C is the male gamete which moves down through the pollen tube (B). (d) D is the female gamete (or egg). The structure E represents the ovule. (e) F is the zygote.</p>
9	<p>X and Y are two human beings. The organ A in the reproductive system of X releases a mature gamete B once a month which goes into a tube-like structure C through a funnel-like opening. The organ D in the reproductive system of Y makes and releases gametes E which pass through a duct F and are introduced by an organ of Y, into the body of X. B and E fuse together in C to form a new cell G. The cell G divides repeatedly to form a ball of cells H which gets embedded in the lining of organ I of reproductive system of X where it grows and develops into a baby.</p> <p>(a) Name (i) organ A, and (ii) gamete B. (b) Write two names of tube-like structure C. (c) Name (i) organ D, and (ii) gamete E. (d) Write two names of duct F. (e) Name (i) cell G (ii) ball of cells H, and (iii) organ I. (f) Out of X and Y, which one is (i) male, and (ii) female?</p> <p>ANSWER:</p> <p>(a) (i) The organ A is the ovary and (ii) the gamete B is an egg. (b) The tube-like structure C is the oviduct or the fallopian tube. (c) (i) D represents the testes and (ii) the gamete E represents sperm. (d) The duct F is the sperm duct or the vas deferens.</p>

	<p>(e) (i) The cell G is the zygote, (ii) the ball of cells H is the embryo and (iii) the organ I is the uterus.</p> <p>(f) (i) X represents female and (ii) Y represents male.</p>
10	<p>In the surgical method of birth control available for males, the structures A in the reproductive system are cut and ligated (tied up) at both ends. This prevents the reproductive cells B from coming out from the organs C where they are made in the male body. Since B cannot come out from the male body, they cannot fuse with cell D in the body of a female and hence pregnancy is prevented.</p> <p>(a) What are structures A? (b) What are cells B? (c) Name the organs C. (d) What is cell D? (e) What is the name of this surgical procedure for birth control available to males?</p> <p>ANSWER:</p> <p>(a) A represents the vas deferens. (b) B represents sperms. (c) C represents the testes. (d) The cell D is the egg or ova. (e) The surgical method of birth control available to males is called vasectomy.</p>

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