5. REPRODUCTION IN PLANTS AND ANIMALS

Teaching Task

MCQs Key and Solutions

1.Which of these things will affect the way a foetus grows?
A) Chemicals in cigarette smoke B) Alcohol C) Drugs D) All the above
Correct Answer: D) All the above
Explanation: Chemicals in cigarette smoke, alcohol, and drugs are all teratogens that can adversely affect fetal development. They can cause congenital abnormalities, growth retardation, or developmental issues by crossing the placenta and impacting the fetus.

2.In males, production of sperms begins from the age of:
A) 13 or 14 years B) 14 or 15 years C) 15 or 16 years D) 12 or 13 years
Correct Answer: A) 13 or 14 years
Explanation: Sperm production (spermatogenesis) typically begins at puberty, which occurs around 13–14 years in males, triggered by hormonal changes involving testosterone and gonadotropins.

3.Umbilical cord develops from:
A) Chorion B) Allantois C) Amnion D) All
Correct Answer: B) Allantois
Explanation: The umbilical cord primarily develops from the allantois and yolk sac, connecting the fetus to the placenta. It contains blood vessels that transport nutrients and oxygen between the mother and fetus.

4.Flower that contains both stamen and carpel are:
A) Bisexual B) Unisexual C) Hermaphrodite D) Multi sexual
Correct Answer: A) Bisexual
Explanation: Flowers containing both male (stamen) and female (carpel) reproductive organs are called bisexual or perfect flowers. Hermaphrodite is a similar term but less commonly used in botany.

5.Foetus is attached to the uterine wall by:
A) Umbilical cord B) Amnion C) Placenta D) Chorion
Correct Answer: C) Placenta
Explanation: The placenta is the organ that attaches the fetus to the uterine wall, facilitating nutrient and oxygen exchange. The umbilical cord connects the fetus to the placenta, not directly to the uterine wall.

6.Accessory glands in male reproductive system secrete a fluid called semen which helps in:
A) Provide nutrients to sperms to keep alive B) Providing a medium for the movement of sperms C) Secreting testosterone D) A and B only
Correct Answer: D) A and B only
Explanation: Accessory glands (e.g., seminal vesicles, prostate gland) secrete fluids that form semen, providing nutrients to sperm and a medium for their movement. Testosterone is secreted by Leydig cells in the testes, not accessory glands.

7.Watery lymph-like fluid that accumulates in the mammary glands during the last part of pregnancy:
A) Amniotic fluid B) Colostrum C) Allantoic fluid D) None of these
Correct Answer: B) Colostrum
Explanation: Colostrum is the first milk produced by mammary glands late in pregnancy and early after birth. It is rich in antibodies and nutrients, unlike amniotic or allantoic fluid.

8.Identify the reproductive parts of a flower:
A) Calyx, corolla B) Stamens, carpels C) Calyx, stamens D) Carpels, corolla
Correct Answer: B) Stamens, carpels
Explanation: The reproductive parts of a flower are the stamens (male, producing pollen) and carpels (female, containing ovules). Calyx and corolla are accessory (non-reproductive) parts.

9.Breastfeeding is the best feeding because it:
A) Enhances immunity B) Protects against allergies C) Reduces chances of immediate pregnancy D) All the above
Correct Answer: D) All the above
Explanation: Breastfeeding boosts infant immunity (via antibodies in colostrum/ milk), reduces allergy risks, and delays ovulation, reducing the chance of immediate pregnancy (lactational amenorrhea).

10.The end products begin their life from a single cell called:
A) Male gamete B) Female gamete C) Zygote D) Microscope
Correct Answer: C) Zygote
Explanation: The zygote is the single cell formed after fertilization of male and female gametes, marking the beginning of a new organism's development.
Key Verification: The provided key (1-D, 2-A, 3-B, 4-A, 5-C, 6-D, 7-B, 8-B, 9-D, 10-C) is correct.

Higher Order Thinking Skills (HOTS) Questions

1.The flask-shaped organ A at the centre of a flower is surrounded by a number of little stalks B having swollen tips. Which lie just inside the rings of petals.

A) Name part A

Answer: Part A is the **carpel** (or pistil).

Explanation: The carpel is the female reproductive organ at the center of a flower, often flask-shaped, consisting of the stigma, style, and ovary.

B) Which part of A contains gametes?

Answer: The **ovary** contains gametes (ovules).

Explanation: The ovary, part of the carpel, houses ovules, which contain the female gametes (egg cells).

C) Name B, what is the swollen top of B known as?

Answer: Part B is the **stamen**; the swollen top is the **anther**.

Explanation: Stamens are the male reproductive organs, and the anther is the swollen part where pollen (male gametes) is produced.

D) Out of A and B, which one is (i) male part (ii) female part?

Answer: (i) Male part: **Stamen (B)**; (ii) Female part: **Carpel (A)**.

Explanation: The stamen produces pollen (male gametes), while the carpel contains the ovules (female gametes).

2.When a human female reaches a certain age, vaginal bleeding occurs for a few days after regular time intervals.

A) What is the process known as?

Answer: **Menstruation** (or menstrual cycle).

Explanation: Menstruation is the periodic shedding of the uterine lining when fertilization does not occur.

B) After how much time is the process repeated?

Answer: Approximately **28 days**.

Explanation: The menstrual cycle typically repeats every 28 days, though this can vary slightly between individuals.

C) What does the onset of this process in a human female signify?

Answer: It signifies the **onset of puberty** and reproductive maturity.

Explanation: Menstruation begins at menarche (around 12–13 years), indicating that the female reproductive system is capable of ovulation and potential pregnancy.

D) At which potential event in the life of a human female does this process stop temporarily, but start again?

Answer: **Pregnancy**.

Explanation: Menstruation stops during pregnancy due to hormonal changes but resumes after childbirth, typically after breastfeeding ceases or ovulation resumes.

E) At which approximate age of a human female does this process stop permanently?
Answer: Around **45–55 years** (menopause).
Explanation: Menopause marks the permanent cessation of menstruation due to the depletion of ovarian follicles, typically occurring between 45 and 55 years.

3.When a fertilized egg E formed in the oviduct of a human female divides repeatedly to form an embryo, the embryo gets implanted in the thick and soft lining of the uterus. After this, a disk-like special tissue which all the requirements of the developing embryo are met from the mother's body. The embryo is connected to the tissue T through a string-like structure S.
A) What is the other name of fertilized egg cell E?
Answer: **Zygote**.
Explanation: The fertilized egg, formed by the fusion of sperm and ovum, is called a zygote.
B) What is the name of tissue T?
Answer: **Placenta**.
Explanation: The placenta is the disk-like tissue that forms in the uterus to provide nutrients, oxygen, and waste removal for the developing embryo.
C) Name the string-like structure S.
Answer: **Umbilical cord**.
Explanation: The umbilical cord is the structure connecting the embryo/fetus to the placenta, allowing nutrient and oxygen exchange.

Learners Task

Level - I MCQs Key and Solutions

1.Sexual reproduction takes place by the combination of sexual reproductive cells called:
A) Gametes B) Sexual C) Reproductive D) Cells
Correct Answer: A) Gametes
Explanation: Sexual reproduction involves the fusion of male and female gametes (sperm and egg) to form a zygote.

2.Fruit is formed from:
A) Stamen B) Stigma C) Ovary D) Ovule
Correct Answer: C) Ovary
Explanation: After fertilization, the ovary of the flower develops into a fruit, enclosing the seeds.

3.The female reproductive part of the flower consists of:
A) Stigma, anther, filament B) Style, ovary, stigma C) Stigma, ovary, thalamus D) Anther, corolla, filament
Correct Answer: B) Style, ovary, stigma
Explanation: The female reproductive part (pistil/carpel) consists of the stigma (receives pollen), style (connects stigma to ovary), and ovary (contains ovules).

4.The outermost whorl of a flower is:
A) Calyx B) Corolla C) Thalamus D) Pistil
Correct Answer: A) Calyx
Explanation: The calyx, composed of sepals, is the outermost whorl, protecting the flower bud.

5.The second whorl of a flower consists of:
A) Sepals B) Stamens C) Petals D) None
Correct Answer: C) Petals
Explanation: The second whorl is the corolla, made up of petals, which attract pollinators.

6.Calyx & corolla are non-essential parts because:
A) Involves in reproduction B) Not involved in reproduction C) Male reproductive organs D) Female reproductive organs
Correct Answer: B) Not involved in reproduction
Explanation: Calyx and corolla are accessory parts, supporting reproduction but not directly involved, unlike stamens and carpels.

7.The part of a flower which involves in photosynthesis:
A) Calyx B) Corolla C) Androecium D) Gynoecium
Correct Answer: A) Calyx
Explanation: The calyx (sepals) is often green and photosynthetic, unlike the corolla, androecium (stamens), or gynoecium (carpels).

8.Portion of pistil which is feathery and sticky is:
A) Ovary B) Style C) Stigma D) None
Correct Answer: C) Stigma
Explanation: The stigma is the sticky, often feathery part of the pistil that captures pollen during pollination.

9.Transfer of pollen grains from anther to stigma is called:
A) Pollination B) Fusion C) Fertilization D) A & B
Correct Answer: A) Pollination
Explanation: Pollination is the transfer of pollen from anther to stigma; fertilization is the fusion of gametes.

10.After fertilization, ovary changes into:
A) Fruit B) Seed C) Seed coat D) All
Correct Answer: A) Fruit
Explanation: Post-fertilization, the ovary develops into a fruit, while ovules become seeds.

11.The anther contains:
A) Sepals B) Ovules C) Carpel D) Pollen grains
Correct Answer: D) Pollen grains
Explanation: The anther, part of the stamen, produces and contains pollen grains (male gametes).

12.The length of pollen tube depends on the distance between:
A) Pollen grain & upper surface of stigma B) Pollen grain on upper surface of stigma & ovule C) Pollen grain in anther & upper surface of stigma D) Upper surface of stigma & lower part of flowers
Correct Answer: B) Pollen grain on upper surface of stigma & ovule
Explanation: The pollen tube grows from the stigma to the ovule to deliver sperm for fertilization, so its length depends on this distance.

13.Which of the following statements are true for flowers?
i) Flowers are always bisexual ii) They contain sexual reproductive organs iii) They are produced in all groups of plants iv) After fertilization they give rise to fruits
A) i & iv B) ii & iii C) i & iii D) ii & iv
Correct Answer: D) ii & iv
Explanation: Flowers contain sexual reproductive organs (stamens and carpels) (ii) and give rise to fruits after fertilization (iv). Not all flowers are bisexual (i), and flowers are specific to angiosperms, not all plants (iii).

14.One of the following present in the reproductive system of flowering plants as well as that of humans is:
A) Vas deferens B) Anther C) Ovary D) Style
Correct Answer: C) Ovary

Explanation: The ovary in plants produces ovules (female gametes), and in humans, it produces eggs, making it a common reproductive structure.

15.The correct sequence of reproductive stages occurring in flowering plants is:
A) Gametes, zygote, embryo, seed B) Zygote, gametes, embryo, seed C) Seed, embryo, zygote, gametes D) Gametes, embryo, zygote, seed
Correct Answer: A) Gametes, zygote, embryo, seed
Explanation: In flowering plants, gametes (pollen and egg) fuse to form a zygote, which develops into an embryo, and eventually a seed.

16.The male gametes in flower & in a human are produced respectively in:
A) Stigma & ovary B) Anther & style C) Ovary & testes D) Anther & testes
Correct Answer: D) Anther & testes
Explanation: In flowers, male gametes (pollen) are produced in the anther; in humans, sperm are produced in the testes.

17.Human has ..... mode of reproduction:
A) Sexual B) Asexual C) Internal D) A & C
Correct Answer: D) A & C
Explanation: Humans reproduce sexually (fusion of gametes) and internally (fertilization occurs inside the female body).

18.Sperms are formed in the:
A) Testes B) Penis C) Vas deferens D) Ovary
Correct Answer: A) Testes
Explanation: Sperms are produced in the seminiferous tubules of the testes.

19.Which of these are the male reproductive organ in humans?
A) Sperms B) Ova C) Testes D) Ovaries
Correct Answer: C) Testes
Explanation: The testes are the male reproductive organs, producing sperm and testosterone.

20.The organ that helps in releasing sperms in female body is:
A) Vas deferens B) Penis C) Testes D) Scrotum
Correct Answer: B) Penis
Explanation: The penis delivers sperm into the female reproductive tract during intercourse.

21.The cell formed after the fertilization is called:
A) An embryo B) Foetus C) Zygote D) None
Correct Answer: C) Zygote
Explanation: Fertilization results in a zygote, which later develops into an embryo and then a fetus.

22.After fertilization, the human embryo grows inside the:
A) Fallopian tubes B) Vagina C) Ovary D) Uterus
Correct Answer: D) Uterus
Explanation: The embryo implants and grows in the uterus after fertilization.

23.The animals having separate male and female individuals are called:
A) Bisexual animal B) Hermaphrodite C) Unisexual D) All
Correct Answer: C) Unisexual
Explanation: Unisexual animals have separate male and female individuals (e.g., humans), unlike hermaphrodites, which have both sexes in one individual.

24.The fusion of male & female gametes usually takes place inside the:
A) Uterus B) Ovary C) Fallopian tube D) Zygote
Correct Answer: C) Fallopian tube
Explanation: Fertilization in humans typically occurs in the fallopian tube, where sperm meets the egg.

25.Which of the following consists of erectile tissue?
A) Testes B) Ovaries C) Sperm duct D) Penis
Correct Answer: D) Penis
Explanation: The penis contains erectile tissue that allows it to become erect during sexual arousal.

26.How many sperms are needed to fertilize the egg?
A) One B) Two C) More than two D) One million
Correct Answer: A) One
Explanation: Only one sperm is needed to fertilize an egg, penetrating its outer layers to form a zygote.

27.Gestation does not follow:
A) If the egg is fertilized B) If the egg is not fertilized C) If the embryo has implanted D) None
Correct Answer: B) If the egg is not fertilized
Explanation: Gestation (pregnancy) occurs only if the egg is fertilized and the embryo implants; if not fertilized, the egg is shed during menstruation.

28.Zygote has gametes from its:
A) Mother B) Father C) A & B D) None
Correct Answer: C) A & B
Explanation: The zygote contains genetic material from both the mother (egg) and father (sperm).

29.Which of these is the male reproductive organ in humans?
A) Sperm B) Ovum C) Testes D) Ovaries
Correct Answer: C) Testes
Explanation: The testes are the male reproductive organs, producing sperm and hormones.

30.Which one is primary sex organ?
A) Penis B) Scrotum C) Testis D) Prostate
Correct Answer: C) Testis
Explanation: The testis is the primary sex organ in males, producing gametes (sperm) and hormones (testosterone).

31.In human male, the testes are located in:
A) Thoracic cavity B) Abdominal cavity C) Pericardial cavity D) Extra abdominal cavity
Correct Answer: D) Extra abdominal cavity
Explanation: The testes are located in the scrotum, outside the abdominal cavity, to maintain a lower temperature for sperm production.

32.Sperms differ from ova in:
A) Semen B) Plasma C) Seminal vesicle D) None
Correct Answer: D) None
Explanation: Sperms and ova differ in motility (sperms are motile, ova are not), size (ova are larger), and number produced (sperms are numerous, ova are few). The options (semen, plasma, seminal vesicle) do not describe these differences, as they relate to seminal fluid or glands, not gamete characteristics.

33.Sperms differ from ova in:
A) Being motile B) Storing food C) Being bigger in size D) Being produced only one in number
Correct Answer: A) Being motile
Explanation: Sperms are motile (can move), while ova are non-motile. Ova store food (yolk), are larger, and are produced in limited numbers, but motility is the key difference.

34.In human beings, fertilization carried out outside the body is called:
A) In vitro fertilization B) In vivo fertilization C) In vitro implantation D) In vitro gestation
Correct Answer: A) In vitro fertilization
Explanation: In vitro fertilization (IVF) involves fertilizing an egg outside the body, typically in a lab.

35.Duct in males for passing both urine & semen:
A) Ureter B) Urethra C) Uterus D) Vas deferens
Correct Answer: B) Urethra
Explanation: The urethra in males serves as a common passage for both urine and semen.

36.When a mature egg leaves the ovary, it enters first in the:
A) Penis B) Uterus C) Vagina D) Oviduct
Correct Answer: D) Oviduct
Explanation: The mature egg is released into the oviduct (fallopian tube) during ovulation, where fertilization may occur.

37.Advantage of sexual reproduction over asexual reproduction is:
A) Sexual reproduction is safer & faster B) It causes variations & brings evolution C) Both A & B D) None
Correct Answer: B) It causes variations & brings evolution
Explanation: Sexual reproduction introduces genetic variation through recombination, promoting evolution, unlike asexual reproduction.

38.Attachment of embryo to the wall of the uterus is known as:
A) Fertilization B) Implantation C) Gestation D) Parturition
Correct Answer: B) Implantation
Explanation: Implantation is the process where the embryo attaches to the uterine wall for further development.

39.Gestation period in human beings is:
A) 5 months B) 9 months C) 10 months D) 8 months
Correct Answer: B) 9 months
Explanation: The human gestation period is approximately 9 months (about 40 weeks).

40.Rupturing of follicles and discharge of ova is known as:
A) Copulation B) Conjugation C) Ovulation D) Oviposition
Correct Answer: C) Ovulation
Explanation: Ovulation is the release of a mature egg from the ovarian follicle.

41.The correct sequence of organs in the male reproductive system for transport of sperms is:
A) Testis '! Vas deferens '! Urethra B) Testis '! Ureter '! Urethra C) Testis '! Urethra '! Ureter D) Testis '! Vas deferens '! Ureter
Correct Answer: A) Testis '! Vas deferens '! Urethra
Explanation: Sperm are produced in the testis, transported through the vas deferens, and exit via the urethra.

42.Gestation period is the duration:
A) Of fertilization B) Between egg growth & ovulation C) Of implantation D) Between fertilization & parturition
Correct Answer: D) Between fertilization & parturition
Explanation: Gestation is the period from fertilization (zygote formation) to parturition (birth).

43.The expulsion of completely developed fetus from the uterus is known as:
A) Ovulation B) Oviposition C) Gestation D) Parturition
Correct Answer: D) Parturition
Explanation: Parturition is the process of giving birth, expelling the fully developed fetus.

44.Which of the following are the parts of sperm?
A) Head B) Middle piece C) Tail D) All
Correct Answer: D) All
Explanation: A sperm consists of a head (contains DNA), middle piece (provides energy), and tail (enables motility).

45.Primary sex organ in human female is:
A) Vagina B) Uterus C) Ovary D) Fallopian tube
Correct Answer: C) Ovary
Explanation: The ovary is the primary sex organ in females, producing eggs and hormones (estrogen, progesterone).

46.Reproduction is mandatory for living organisms in order to:
A) Keep the individual organism alive B) Fulfill their energy requirement C) Maintain growth of reproductive organs D) Continue the species generation after generation
Correct Answer: D) Continue the species generation after generation
Explanation: Reproduction ensures the continuation of a species across generations, not the survival of an individual organism.

47.Which of the following is not a part of the female reproductive system in human beings?
A) Ovary B) Uterus C) Vas deferens D) Fallopian tube
Correct Answer: C) Vas deferens
Explanation: The vas deferens is part of the male reproductive system, not the female system.

48.Test tube baby technique is called:
A) In vitro fertilization B) Ex vivo fertilization C) In situ fertilization D) Ex situ fertilization
Correct Answer: A) In vitro fertilization
Explanation: Test tube baby refers to in vitro fertilization (IVF), where fertilization occurs outside the body.

49.The reproductive cells of parents produce:
A) Ovum B) Gametes C) Testis D) Zygote
Correct Answer: B) Gametes
Explanation: Reproductive cells are gametes (sperm and ovum), which fuse to form a zygote.

Level - II
More Than One Answer

50.Find the incorrect pairs:
(i) Calyx-sepals (ii) Corolla-ovules (iii) Androecium-stamens (iv) Gynoecium-petals
A) (ii) & (iv) B) (i) & (ii) C) (ii) & (iii) D) (i) & (iv)
Correct Answer: A) (ii) & (iv)
Explanation:
(i) Calyx-sepals is correct (calyx is made of sepals).
(ii) Corolla-ovules is incorrect (corolla is made of petals; ovules are in the ovary).
(iii) Androecium-stamens is correct (androecium is the male whorl of stamens).

(iv) Gynoecium-petals is incorrect (gynoecium is the female whorl of carpels, not petals).

51.Find the parts which are included in female reproductive system of humans: (i) Ovary, fallopian tube (ii) Testes, vas deferens (iii) Oviduct, vagina (iv) Uterus, cervix
A) (i), (ii), (iii) B) (i) & (ii) C) (i), (iii) & (iv) D) (ii) & (iv)
Correct Answer: C) (i), (iii) & (iv)
Explanation:
(i) Ovary, fallopian tube: Correct (both are parts of the female reproductive system).
(ii) Testes, vas deferens: Incorrect (these are male reproductive structures).
(iii) Oviduct, vagina: Correct (oviduct is another name for fallopian tube; vagina is part of the female system).
(iv) Uterus, cervix: Correct (both are female reproductive structures).

52.Which of the following is the correct sequence of steps in the human life cycle?
A) Babyhood, childhood, adolescence, adulthood B) Childhood, babyhood, adulthood, adolescence C) Adolescence, babyhood, adulthood, childhood
A) Only i B) Both i & ii C) ii & iii D) Only iv
Correct Answer: A) Only i
Explanation: The correct sequence of human life cycle stages is babyhood (infancy), childhood, adolescence, and adulthood. Options B and C are incorrect sequences.

Assertion & Reason
Options:
A) A & R are true & R explains A
B) A & R are true & R doesn't explain A
C) A is true, R is false
D) A & R are false

53.A: Corolla is a floral part R: It helps in pollination
Correct Answer: B) A & R are true & R doesn't explain A
Explanation: The corolla (petals) is a floral part (A is true) and aids pollination by attracting pollinators (R is true). However, R does not explain why the corolla is a floral part; it describes its function.

54.A: One pollen mother cell forms four microspores R: Microspores are formed due to reduction division
Correct Answer: A) A & R are true & R explains A

Explanation: One pollen mother cell undergoes meiosis (reduction division) to form four microspores (A is true). The microspores are indeed formed via reduction division (meiosis), so R is true and explains A.

55.A: Double fertilization is unique to angiosperms R: Triple fusion occurs in both fertilizations, i.e., first & second
Correct Answer: C) A is true, R is false
Explanation: Double fertilization, where one sperm fertilizes the egg and another fuses with polar nuclei to form endosperm, is unique to angiosperms (A is true). However, triple fusion refers only to the second fertilization event (sperm with polar nuclei), not both fertilizations (R is false).

56.A: Ovule develops from a cushion-like part of the ovary, the placenta R: Ovule connected to the placenta by a stalk known as funicle
Correct Answer: B) A & R are true & R doesn't explain A
Explanation: Ovules develop from the placenta in the ovary (A is true), and the funicle connects the ovule to the placenta (R is true). However, R describes the connection, not why ovules develop from the placenta.

57.A: Pollen grains develop in anther R: Anther contains two lobes
Correct Answer: A) A & R are true & R explains A
Explanation: Pollen grains develop in the anther (A is true), which typically has two lobes containing pollen sacs (R is true). The lobed structure facilitates pollen development, so R explains A.

58.A: Sepals protect the flower in the bud stage R: Calyx being green in colour manufactures food for the plant
Correct Answer: B) A & R are true & R doesn't explain A
Explanation: Sepals (calyx) protect the flower bud (A is true), and being green, they can photosynthesize (R is true). However, R describes an additional function, not the protective role.

59.A: Vagina acts as copulation canal and fertilization canal both R: Both insemination of female fo gametes occur in vagina of female
Correct Answer: D) A & R are false
Explanation: The vagina is the copulation canal but not the fertilization canal; fertilization occurs in the fallopian tube (A is false). Insemination occurs in the vagina, but fertilization does not, and "female fo gametes" is unclear (R is false).

60.A: The space between the seminiferous tubules is occupied by Sertoli cells R: Sertoli cells secrete testosterone hormone
Correct Answer: C) A is true, R is false
Explanation: Sertoli cells are found within seminiferous tubules, supporting sperm development (A is true, though "between" is slightly misleading). Sertoli cells do not secrete testosterone; Leydig cells do (R is false).

61.A: Ovulation is the release of egg R: It takes place on the 14th day of menstrual cycle
Correct Answer: B) A & R are true & R doesn't explain A
Explanation: Ovulation is the release of an egg from the ovary (A is true). It typically occurs around day 14 in a 28-day cycle (R is true), but this timing does not explain what ovulation is.

62.A: In both sexes gonads perform dual function R: Gonads are also called primary sex organs
Correct Answer: A) A & R are true & R explains A
Explanation: Gonads (testes in males, ovaries in females) produce gametes and hormones (dual function, A is true) and are called primary sex organs because of these roles (R is true and explains A).

63.A: At puberty, human male develops secondary sexual characters R: At puberty, there is decreased secretion of testosterone in male
Correct Answer: C) A is true, R is false
Explanation: At puberty, males develop secondary sexual characteristics (e.g., facial hair, deeper voice) (A is true). This is due to increased testosterone secretion, not decreased (R is false).

Matching

64.1) Calyx ( ) A) Female part 2) Corolla ( ) B) Male part 3) Androecium ( ) C) Outermost 4) Gynoecium ( ) D) Second whorl
Correct Answer: C) 1-C, 2-D, 3-B, 4-A
Explanation:
Calyx: Outermost whorl (C).
Corolla: Second whorl, petals (D).
Androecium: Male part, stamens (B).
Gynoecium: Female part, carpels (A).

65.1) Sepals ( ) A) Attracts insects 2) Petals ( ) B) Protection 3) Placenta ( ) C) Palynology 4) Pollen grains ( ) D) Funicle
Correct Answer: A) 1-B, 2-A, 3-D, 4-C
Explanation:
Sepals: Protect the flower bud (B).
Petals: Attract insects for pollination (A).
Placenta: Connects ovules via funicle (D).
Pollen grains: Studied in palynology (C).

66.1) Testis ( ) A) Male gamete 2) Sperm ( ) B) Coiled tube 3) Testosterone ( ) C) Male reproductive organ 4) Epididymis ( ) D) Male hormone
Correct Answer: B) 1-C, 2-A, 3-D, 4-B
Explanation:
Testis: Male reproductive organ (C).
Sperm: Male gamete (A).
Testosterone: Male hormone (D).
Epididymis: Coiled tube for sperm storage (B).

67.1) Ovary ( ) A) Fusion of male and female gametes 2) Ova ( ) B) Birth canal 3) Vagina ( ) C) Female reproductive organ 4) Fertilization ( ) D) Female gamete
Correct Answer: A) 1-C, 2-D, 3-B, 4-A
Explanation:
Ovary: Female reproductive organ (C).
Ova: Female gamete (D).
Vagina: Birth canal (B).
Fertilization: Fusion of male and female gametes (A).

Archives
1.Sertoli cells are found in testes. These cells are:
A) Nurse cell B) Reproductive cell C) Receptor cell D) None of these
Correct Answer: A) Nurse cell
Explanation: Sertoli cells, located in the seminiferous tubules, support and nourish developing sperm cells, earning them the name “nurse cells.”

2.The cellular layer that disintegrates and regenerates again and again in humans is:
A) Endometrium of uterus B) Cornea of eye C) Dermis of skin D) Endothelium of blood vessels
Correct Answer: A) Endometrium of uterus
Explanation: The endometrium, the inner lining of the uterus, is shed and regenerated monthly during the menstrual cycle if pregnancy does not occur.

3.The functional maturation of sperms takes place in:
A) Oviduct B) Epididymis C) Vagina D) All of these
Correct Answer: B) Epididymis
Explanation: Sperms undergo functional maturation (gaining motility and fertilizing ability) in the epididymis, where they are stored after production in the testes.

4.In mammals, the female secondary sexual characters are developed mainly by the hormone:
A) Relaxin B) Estrogens C) Progesterone D) Gonadotropins
Correct Answer: B) Estrogens
Explanation: Estrogens, produced by the ovaries, are responsible for developing female secondary sexual characteristics (e.g., breast development, wider hips) during puberty.

5.Human female reaches menopause at the age of about:
A) 25 years B) 35 years C) 50 years D) 70 years
Correct Answer: C) 50 years
Explanation: Menopause, the permanent cessation of menstruation, typically occurs around age 50 (45–55 years) due to ovarian follicle depletion.

6.Glands secreting male sex hormone are:
A) Leydig cells B) Seminiferous tubules C) Vasa deferentia D) Testes
Correct Answer: A) Leydig cells
Explanation: Leydig cells in the testes secrete testosterone, the primary male sex hormone. The testes contain these cells, but Leydig cells are specifically responsible.