10th Science Lesson 17 Questions in English

17] Reproduction In Plants And Animals

1. Assertion (A): All living organisms have the ability to produce of its own kind by reproduction.
Reasoning(R): Reproduction ensures continuity and survival of the species on earth.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
"Living organisms cannot survive for an indefinite period on earth. All living organisms have the ability to produce more of its own kind by the process called reproduction. Reproduction is the unfolding of life forms where new individuals are formed. It ensures continuity and survival of the species. This process is to preserve individual species and it is called as self-perpetuation.

2. Which of these contain the genetic materials of living organisms?
a) Gametes
b) Embryo
c) Estrogen
d) Placenta
Explanation
In sexual reproduction off springs are produced by the union of male and female gametes (sperm and egg). The male and female gametes contain the genetic material or genes present on the chromosomes which transmit the characteristic traits to the next generation.

3. Which of the following is not a plant reproduction method?
a) Vegetative
b) Chemical
c) Asexual
d) Sexual
Explanation
There are three types of reproduction in plants namely i) Vegetative ii) Asexual and iii) Sexual reproduction.

4. Choose the incorrect statements about the vegetative reproduction method.
i) New plants are formed from vegetative cells or from the plant organs.
ii) Part of a plant detached from the parent body and grows into an independent plant.
iii) No mitotic division and only has the gametic fusion.
iv) The daughter plants are genetically different from the parent plant.

a) i, iii, iv only
b) ii, iv only
c) i, ii only
d) iii, iv only
Explanation
In this type, new plantlets are formed from vegetative (somatic) cells, buds or organs of plant. The vegetative part of plant (root, stem, leaf or bud) gets detached from the parent body and grows into an independent daughter plant. It has only mitotic division, no gametic fusion and daughter plants are genetically similar to the parent plant.

5. Which of these plant parts can produce the vegetative reproduction?
a) Bulbils
b) Leaves
c) Roots
d) All the above
Explanation
Vegetative reproduction may take place through leaves, stems, roots and bulbils.

6. In which of these plants leaves are involved in reproduction?
a) Pteridophytes
b) Drosophila
c) Bryophyllum
d) Bryophytes
Explanation
Leaves: In Bryophyllum small plants grow at the leaf notches.

7. Which part of strawberry plant is involved in vegetative reproduction?
a) Stems
b) Leaves
c) Fruits
d) Roots
Explanation
Stems: In strawberry aerial weak stems touch the ground and give off adventitious roots and buds. When the connections with the parent plant are broken, the offspring become independent.

8. Which of the following does not reproduce using its roots?
a) Asparagus
b) Sweet potato
c) Agave
d) Parsnip

Explanation
Root: Tuberous roots (Asparagus and Sweet potato) can be used for vegetative propagation.

9. Which part of plants is modified as bulbils in some plants?
a) Roots
b) Flower buds
c) Leaves
d) Stems
Explanation
Bulbils: In some plants the flower buds modified into globose which are called as bulbils, when these falls on the ground they grow into new plants. e.g. Agave.

10. Which of these is not a type of vegetative reproduction?
a) Fragmentation
b) Gametes fusion
c) Budding
d) Regeneration
Explanation
Other types of Vegetative Reproduction: Fragmentation, Fission, Budding and Regeneration.

11. Choose the Incorrect statements.
i) Fragmentation is breaking the filamentous algae into many fragments.
ii) Each fragment has at least one cell to form a new filament of algae by cell division.
iii) Agave is an example for the fragmentation reproduction.
a) i only
b) ii only
c) iii only
d) None of the above
Explanation
Fragmentation: In filamentous algae breaking of the filament into many fragments is called fragmentation. Each fragment having at least one cell, may give rise to a new filament of the algae by cell division e.g. Spirogyra.

12. Identify the Incorrect match.

A. Regeneration	i) Planaria
B. Fission	ii) Asparagus
C. Fragmentation	iii) Spirogyra
D. Budding	iv) Yeast

a) i only
b) ii only

c) iii only
d) iv only
Explanation
Fission: In this type the parent cell divides into two daughter cells and each cell develops into a new adult organism e.g. Amoeba.
Budding: Formation of a daughter individual from a small projection, the bud, arising on the parent body is called budding. e.g. Yeast.
Regeneration: The ability of the lost body parts of an individual organism to give rise to an whole new organism is called regeneration. It takes place by specialized mass of cells e.g Hydra and Planaria.

13. How many daughter cells are divided from the parent cell by the fission method?
a) 4
b) 10
c) 2
d) 5
Explanation
Fission: In this type the parent cell divides into two daughter cells and each cell develops into a new adult organism e.g. Amoeba.

14. Choose the correct statements about the asexual reproduction method.
i) Offspring is produced by a single parent without forming fusion of gametes.
ii) Both the mitotic and meiosis cell divisions occur.
iii) Parent and the off springs are not identical and they are genetically different.
a) i only
b) ii only
c) iii only
d) All the above
Explanation
Production of an offspring by a single parent without the formation and fusion of gametes is called asexual reproduction. It involves only mitotic cell divisions and meiosis does not occur. Offspring produced by asexual reproduction are not only identical to parents but are also exact copies of their parent.

15. Which of these reproduce by the asexual reproduction method?
a) Amoeba
b) Hydra
c) Bacteria
d) Yeast
Explanation

Asexual reproduction occurs by spore formation. This is the most common method of asexual reproduction in fungi and bacteria.

16. Arrange the correct order of the asexual reproduction process.
i) Each nucleus with small amount of cytoplasm develops into a spore.
ii) Asexual reproduction occurs by spore formation.
iii) Nucleus is divided several times within the sporangium.
iv) Spores are liberated and developed as a new hypha after reaching ground or substratum.
v) Sporangium is developed from the fungal hypha.
a) i, iv, ii, iii, v
b) ii, v, iii, i, iv
c) iii, iv, v, i, ii
d) iv, iii, i, ii, v
Explanation
Asexual reproduction occurs by spore formation. During spore formation a structure called sporangium develops from the fungal hypha. The nucleus divides several times within the sporangium and each nucleus with small amount of cytoplasm develops into a spore. The spores are liberated and they develop into new hypha after reaching the ground or substratum.

17. Assertion (A): In a sexual reproduction process two gametes are fused to produce off springs.
Reasoning(R): Male and female sex organs are needed to produce gametes in sexual reproduction.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
Sexual reproduction is the process in which two gametes (male and female) are fused to produce offspring of their own kind. In such cases both sexes, male and female sex organs are needed to produce gametes.

18. Match the flower parts.

A. Gynoecium	i) Petals
B. Calyx	ii) Carpels
C. Androecium	iii) Sepals
D. Corolla	iv) Stamens

a) i, iii, iv, ii
b) iv, iii, i, ii
c) ii, iii, iv, i
d) iv, i, ii, iii
Explanation

A flower is a modified shoot with limited growth to carry out sexual reproduction. A flower consists of four whorls borne on a thalamus. These whorls are from outside
Calyx – consisting of sepals
Corolla – consisting of petals
Androecium – consisting of stamens
Gynoecium or pistil – consisting of carpels

19. Which of these parts of plants take part in sexual reproduction?
a) Gynoecium
b) Leaves
c) Calyx
d) Corolla
Explanation
The two outermost whorls calyx and corolla are non–essential or accessory whorls as they do not directly take part in the reproduction. The other two whorls androecium and gynoecium are known as the essential whorls, because both take part directly in reproduction.

20. In which part of the plant pollen grains are produced?
a) Calyx
b) Anther
c) Corolla
d) Stems
Explanation
Androecium: Androecium, the male part of flower is composed of stamens. Each stamen consists of a stalk called the filament and a small bag like structure called anther at the tip. The pollen grains are produced in the anther within the pollen sac.

21. Choose the Incorrect statements.
i) Pollen grains are usually disc like shaped with a three layered wall.
ii) The Hard outer layer is known as exine with germpores.
iii) Intine is a thin inner layer made up of cellulose and pectin.
a) i only
b) ii only
c) iii only
d) All the above
Explanation
Pollen grain: Pollen grains are usually spherical in shape. It has two layered wall. The hard outer layer is known as exine. It has prominent apertures called germpore. The inner thin layer is known as intine. It is a thin and continuous layer made up of cellulose and pectin.

22. Which of these pollen cells divides mitotically?
a) Vegetative cell
b) Nucleus
c) Generative cell
d) Cellulose
Explanation
Mature pollen grains contain two cells, the vegetative and the generative cell. Vegetative cell contains a large nucleus. The generative cell divides mitotically to form two male gametes.

23. Which is not a part of gynoecium?
a) Ovary
b) Intine
c) Style
d) Stigma
Explanation
Gynoecium: Gynoecium is the female part of the flower and is made up of carpels. It has three parts: Ovary, Style and Stigma

24. Assertion (A): Androecium is the male part of plant composed of stamens.
Reasoning(R): The female part of plant is made up of carpels called as Gynoecium.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
Androecium, the male part of flower is composed of stamens. Gynoecium is the female part of the flower and is made up of carpels.

25. Which of these statements are not true regarding the gynoecium part of a plant?
a) Nucellus is the main part of the ovule.
b) Nucellus is enclosed by two integuments and an opening called micropyle.
c) Ovule is attached to the ovary by carpels.
d) Chalaza is the basal part.
Explanation
The main part of the ovule is the nucellus which is enclosed by two integuments leaving an opening called as micropyle. The ovule is attached to the ovary wall by a stalk known as funiculus. Chalaza is the basal part.

26. How many cells are there in an embryo sac?
a) 7

b) 5
c) 3
d) 2
Explanation
The embryo sac contains seven cells and the eighth nuclei located within the nucellus.

27. Choose the correct statements about the cells of embryo sac.
i) Five cells at the chalaza end are called as antipodal cells.
ii) Two nuclei cells found in the center are called as polar nuclei.
iii) The egg apparatus contain two egg cells and single synergids.
a) i only
b) ii only
c) iii only
d) All the above
Explanation
Three cells at the micropylar end form the egg apparatus and the three cells at the chalaza end are the antipodal cells. The remaining two nuclei are called polar nuclei found in the center. In the egg apparatus one is the egg cell (female gamete) and the remaining two cells are the synergids.

28. Which is a process of sexual reproduction in the flowering plants?
a) Pollination and Fertilization
b) Fragmentation and Fission
c) Spore formation
d) Cell division
Explanation
Process of sexual reproduction in flowering plants involves: Pollination and Fertilization

29. Define pollination.
a) Meiosis cell division method.
b) Producing spores by asexual reproduction.
c) Transfer of pollen grains from anther to stigma of a flower.
d) Producing the gametes used for reproduction.
Explanation
The transfer of pollen grains from anther to stigma of a flower is called as pollination.

30. Which of these are not the significances of pollination?
a) Asexual reproduction
b) Fruits and seed formation
c) Fertilization
d) Cross pollination for creating new varieties.

Explanation
Importance of Pollination: It results in fertilization which leads to the formation of fruits and seed. New varieties of plants are formed through new combination of genes in case of cross pollination.

31. Which of this plant is an example for self-pollination or Autogamy?
a) Bryophyllum
b) Asparagus
c) Hibiscus
d) Hydra
Explanation
Self-pollination (Autogamy): Self-pollination is also known as autogamy. The transfer of pollen grains from the anther to the stigma of same flower or another flower borne on the same plant is known as self-pollination. e.g. Hibiscus.

32. What are the advantages of self-pollination?
a) Possible in bisexual flowers.
b) Does not depend on pollination agents.
c) No wastage of pollen grains.
d) All the above
Explanation
Advantages of self-pollination: Self-pollination is possible in bisexual flowers. Flowers do not depend on agents for pollination. There is no wastage of pollen grains.

33. Which is not a disadvantage of self-pollination?
a) Less number of seeds.
b) Very big endosperm.
c) New varieties are not possible.
d) Seeds produce weak plants.
Explanation
Disadvantages of self-pollination: The seeds are less in numbers. The endosperm is minute. Therefore, the seeds produce weak plants. New varieties of plants cannot be produced.

34. Which of these plants reproduce by cross-pollination?
a) Apples
b) Grapes
c) Plums
d) All the above
Explanation
Cross-pollination is the transfer of pollen from the anthers of a flower to the stigma of a flower on another plant of the same species e.g. apples, grapes, plum, etc.

35. Which of the following are the advantages of cross pollination?
a) Better plants by proper germination.
b) New varieties of plants are possible.
c) More viable seeds are produced.
d) All the above
Explanation
Advantages of cross pollination: The seeds produced as a result of cross pollination, develop and germinate properly and grow into better plants, cross pollination leads to the production of new varieties. More viable seeds are produced.

36. Which of the following is not a disadvantage of cross pollination?
a) Failure in pollination due to distance barrier.
b) Less wastage of pollen grains.
c) Unwanted characters may be introduced in plants.
d) External agencies are needed for pollination.
Explanation
Disadvantages of cross-pollination: Pollination may fail due to distance barrier. More wastage of pollen grains. It may introduce some unwanted characters Flowers depend on the external agencies for pollination.

37. Which of the following are the agents for cross pollination?
a) Animals
b) Water
c) Wind
d) All the above
Explanation
In order to bring about cross pollination, it is necessary that the pollen should be carried from one flower to another of a different plant. This takes place through the agency of animals, insects, wind and water.

38. Choose the correct statements.
i) Anemophily is the pollination method carried out by the wind.
ii) The anemophilous flowers produce enormous amount of pollen grains.
iii) Pollen grains off this pollination are small, smooth, dry and light weighted.
a) i only
b) ii only
c) iii only
d) All the above
Explanation

The pollination with the help of wind is called anemophily. The anemophilous flowers produce enormous amount of pollen grains. The pollen grains are small, smooth, dry and light in weight. Pollen of such plants is blown off at a distance of more than 1,000 km. The stigmas are comparatively large, protruding and sometimes hairy to trap the pollen grains. e.g. Grasses and some cacti.

39. Assertion (A): Pollination with the help of insects is called as entomophily.
Reasoning(R): The flowers attract the insects by their bright color, smell and nectar.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
Pollination with the help of insects like honey bees, flies are called entomophily. To attract insects these flowers are brightly colored, have smell and nectar. The pollen grains are larger in size, the exine is pitted, spiny etc., so they can be adhered firmly on the sticky stigma.

40. Which of these insect does the major entomophily pollination?
a) Ants
b) Bumble bees
c) Honey bees
d) Grass hoppers
Explanation
Approximately, 80% of the pollination done by the insects is carried by honey bees.

41. By which of this method the aquatic plants are pollinated?
a) Hydrophily
b) Entomophily
c) Anemophily
d) Zoophily
Explanation
Pollination by water: The pollination with the help of water is called hydrophily. This takes place in aquatic plants. Pollen grains are produced in large numbers. Pollen grains float on surface of water till they land on the stigma of female flowers e.g. Hydrilla, Vallisneria.

42. Which of these pollinates the silk cotton tree?
a) Sun bird
b) Squirrels
c) Honey bees
d) Lady bug

Explanation

Pollination by Animals: When pollination takes place with the help of animals, it is called Zoophily. Flowers of such plants attract animals by their bright color, size, scent etc. e.g. sun bird pollinates flowers of Canna, Gladioli etc., Squirrels pollinate flowers of silk cotton tree.

43. Match

A. Zoophily	i) Cacti
B. Anemophily	ii) Honey bees
C. Entomophily	iii) Hydrilla
D. Hydrophily	iv) Canna flowers

a) iii, iv ,i, ii

b) iv, iii, ii, i

c) iv, i, ii, iii

d) iii, i, ii, iv

Explanation

The pollination with the help of wind is called anemophily. E.g. Grasses and some cacti. Pollination with the help of insects like honey bees, flies are called entomophily. The pollination with the help of water is called hydrophily. E.g. Hydrilla, Vallisneria. When pollination takes place with the help of animals, it is called Zoophily. E.g. sun bird pollinates flowers of Canna, Gladioli etc., Squirrels pollinate flowers of silk cotton tree.

44. What is termed as double fertilization?

a) The process of two types of fusion syngamy and triple fusion in embryo sac.

b) Sperm fuses with the secondary nucleus to form the nucleus.

c) Sperm fuses with the egg and forms a triploid zygote.

d) None of the above

Explanation

One sperm fuses with the egg (syngamy) and forms a diploid zygote. The other sperm fuses with the secondary nucleus (Triple fusion) to form the primary endosperm nucleus which is triploid in nature. Since two types of fusion syngamy and triple fusion take place in an embryo sac the process is termed as double fertilization.

45. What is the significance of the fertilization?

a) Seedling under appropriate conditions.

b) New character from two different individuals.

c) Stimulating ovary to develop into fruit.

d) Both b and c

Explanation

Significance of Fertilization: It stimulates the ovary to develop into fruit. It helps in development of new characters from two different individuals.

46. What are the post fertilization changes?
a) Seed development from the ovule.
b) Development of seed coat by the integuments of the ovule.
c) Fruit development by the enlargement of ovary.
d) All the above
Explanation
Post fertilization changes: The ovule develops into a seed. The integuments of the ovule develop into the seed coat. The ovary enlarges and develops into a fruit.

47. Which of these contains the future plant?
a) Seed
b) Gamete
c) Zygote
d) Embryo
Explanation
The seed contains the future plant or embryo which develops into a seedling under appropriate conditions.

48. Assertion (A): Sexual reproduction involves the fusion of two haploid cells to form a diploid zygote.
Reasoning(R): Reproductive organs are divided into primary and secondary sex organs.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
Sexual reproduction involves the fusion of two haploid gametes (male and the female gametes) to form a diploid individual (zygote). Organs of the reproductive system are divided into primary and secondary (accessory) sex organs.

49. Which of the following is not an accessory sex organ of a male?
a) Vas deferens
b) Cervix
c) Seminal vesicle
d) Epididymis
Explanation
Primary reproductive organs include the gonads (Testes in male and Ovaries in female). Accessory sex organs Male: Vas deferens, epididymis, seminal, vesicle, prostate gland and penis. Female: Fallopian tubes, uterus, cervix and vagina.

50. In which of this process the secondary sex organs are involved?
a) Ovulation process
b) Fertilization
c) Foetus development and child birth
d) All the above
Explanation
The secondary (accessory) sex organs include those structures which are involved in the Process of ovulation, Fusion of the male and female gametes (fertilization), Division of the fertilized egg up to the formation of embryo, Pregnancy, Development of foetus and Child birth.

51. Which of these are true regarding the testes of male?
a) Oval shaped reproductive gland of male.
b) Testes are kept inside a sac like structure scrotum.
c) Lies outside the abdominal cavity of a man.
d) All the above
Explanation
Testes are the reproductive glands of the male that are oval shaped organs which lie outside the abdominal cavity of a man in a sac like structure called scrotum.

52. Which of this tissue covers the testes of male reproductive system?
a) Seminiferous tubules
b) Tunica albuginea
c) Sertoli cells
d) Haploid cells
Explanation
Each testis is covered with a layer of fibrous tissue called tunica albuginea. Many septa from this layer divide the testes into pyramidal lobules, in which lie seminiferous tubules, cells of Sertoli, and the Leydig cells (interstitial cells).

53. Which of the following cells support and provide nutrients to the developing sperms?
a) Follicle cells
b) Haploid cells
c) Leydig cells
d) Sertoli cells
Explanation
The process of spermatogenesis takes place in the seminiferous tubules. The Sertoli cells are the supporting cells and provide nutrients to the developing sperms.

54. Which of these initiates the spermatogenesis process?

a) Luteinizing hormones
b) Leydig cells
c) Mitochondria
d) Graafian follicle
Explanation
The Leydig cells are polyhedral in shape and lie between the seminiferous tubules and secrete testosterone. It initiates the process of spermatogenesis.

55. Choose the Incorrect statements.
i) The ovaries are located on the right side of the lower abdomen.
ii) Ovaries lie near the lateral end of fallopian tube.
iii) Ovary is a compact structure of an outer cortex and an inner medulla layer.
a) i only
b) ii only
c) iii only
d) All the above
Explanation
The ovaries are located on either side of the lower abdomen composed of two almond shaped bodies each lying near the lateral end of fallopian tube. Each ovary is a compact structure consisting of an outer cortex and an inner medulla.

56. Which of these cells in the ovum forms the primary follicle?
a) Haploid cells
b) Cytoplasm
c) Granulosa cells
d) Gametes
Explanation
The cortex is composed of a network of connective tissue called as stroma and is lined by the germinal epithelium. The epithelial cells called the granulosa cells surround each ovum in the ovary together forming the primary follicle.

57. Name the fluid that fills the grown ovum.
a) Graafian follicle
b) Haploid
c) Perivitelline
d) Hyaluronidase
Explanation
As the egg grows larger, the follicle also enlarges and gets filled with the fluid and is called the Graafian follicle.

58. Which of the following is not a function of gametogenesis?
a) Sperm formation in male and ovum in the female
b) Involves spermatogenesis and oogenesis process.
c) Produce gametes with haploid cells.
d) Provides sperm motility in fertilization.
Explanation
The formation of the sperm in male and the ovum in female is called gametogenesis. It involves spermatogenesis (formation of spermatozoa) and oogenesis (the formation of ova). Gametes with haploid cells are produced through gametogenesis.

59. Which part of the spermatozoa is formed by the condensation of nucleus?
a) Sperm head
b) Tail part
c) Middle piece
d) All the above
Explanation
The spermatozoa consist of head a middle piece and tail. The sperm head is elongated and formed by the condensation of nucleus.

60. Name the cap like structure of the anterior part of spermatozoa?
a) Ribosome
b) Acrosome
c) Lysosome
d) None of the above
Explanation
The anterior portion of spermatozoan has a cap like structure called acrosome. It contains hyaluronidase an enzyme that helps the sperm to enter the ovum during fertilization.

61. What are the significances of the middle part of the spermatozoan?
a) Contains the mitochondria.
b) Energy supply for the tail movement.
c) Provides sperm motility for fertilization.
d) All the above
Explanation
The spermatozoan has a short neck connects the head and middle piece which comprises the centrioles. The middle piece contains the mitochondria provides energy for the movement of tail. It brings about sperm motility which is essential for fertilization.

62. Choose the Incorrect statements about the human ovum.
i) The shape of a mature ovum or egg is spherical.

ii) The ovum contains the yolk in the middle.
iii) Ovum contains cytoplasm and the nucleus.
a) i only
b) ii only
c) iii only
d) None of the above
Explanation
The mature ovum or egg is spherical in shape. The ovum is almost free of yolk. It contains abundant cytoplasm and the nucleus.

63. How many membranes surround the ovum?
a) 5
b) 7
c) 3
d) 4
Explanation
The ovum is surrounded by three membranes. The plasma membrane is surrounded by inner thin zona pellucida and an outer thick corona radiata. The corona radiata is formed of follicle cells.

64. Which of these membranes forms the surface layer of the ovum?
a) Vitelline Membrane
b) Mucous Membranes
c) Serous Membranes
d) Epithelial Membranes
Explanation
The membrane forming the surface layer of the ovum is called vitelline membrane. The fluid-filled space between zona pellucida and the surface of the egg is called Perivitelline space.

65. Choose the correct statements.
i) In the puberty period the female reproductive system becomes functional.
ii) Girls reach puberty between 11 to 13 years.
iii) Puberty starts earlier in males than in females.
iv) Onset of puberty is triggered by the testosterone hormone in male.
a) i, ii only
b) i, iii, iv only
c) ii, iv only
d) iii, iv only
Explanation
Puberty: The reproductive system in both males and females becomes functional and an increase in sex hormone production resulting in puberty. This phenomenon tends to start earlier in females

than in males. Generally boys attain puberty between the ages of 13 to 14 years, while girls reach puberty between 11 to 13 years. In male, the onset of puberty is triggered by the secretion of the hormone testosterone in the testes, in female the secretion of estrogens and progesterone from the ovary.

66. Which of the following is responsible for the secretion of both male and female hormones?
a) Luteinizing Hormone and Follicle stimulating hormone
b) Adrenocorticotropic Hormone
c) Estrogen and Progesterone
d) Anti-Mullerian Hormone
Explanation
The secretion of both male and female hormones is under the control of the pituitary gonadotropins luteinizing hormone (LH) and follicle stimulating hormone (FSH).

67. What are the significances of the menstrual cycle in female human?
a) Cyclic events during the reproductive period of a women's life.
b) Menstrual cycle starts at the age of 11-13 years.
c) It marks the onset of the puberty and called as menarche.
d) All the above
Explanation
The cyclic events that take place in a rhythmic fashion during the reproductive period of a woman's life is called menstrual cycle. In human females the menstrual cycle starts at the age of 11-13 years which marks the onset of puberty and is called menarche, and ceases around 48-50 years of age and this stage is termed menopause.

68. What is the minimum time repetition duration for a healthy menstrual flow?
a) 35 days
b) 15 days
c) 28 days
d) 45 days
Explanation
The reproductive period is marked by characteristic events repeated almost every month in physiologically normal women (28 days with minor variation) in the form of a menstrual flow.

69. Which is not a menstrual cycle phase?
a) Fertilization phase
b) Destructive phase
c) Proliferative phase
d) Ovulatory phase
Explanation

The menstrual cycle consists of 4 phases: Menstrual or Destructive Phase, Follicular or Proliferative Phase, Ovulatory Phase and Luteal or Secretory Phase.

70. What are the hormonal changes in the menstrual phase of women?
a) FSH and estrogen increase
b) LH and FSH decrease
c) Decrease in progesterone and estrogen
d) Peak LH

71. What are the changes in the follicular phase of a women cycle?
a) Increase in endometrial thickness.
b) Primary follicles grow to become a fully mature Graafian follicle.
c) Breakdown of uterine endometrial lining leads to bleeding.
d) Development of primary follicles.

72. In which day of the women menstrual cycle the ovulatory phase begin?
a) 14th day
b) 4th day
c) 28th day
d) 7th day

73. Which of these hormones is at peak in the ovulatory phase?
a) FSH
b) LH
c) Estrogen
d) Progesterone

74. Which of these statements is not true regarding the luteal phase of women?
a) Emptied Graafian follicle develops into corpus luteum.
b) Occurs from the 15th–28th day of menstrual cycle.
c) Increase in endometrial thickness.
d) Endometrium is prepared for implantation if fertilization of egg takes place.

75. In which phase of the menstrual cycle the emptied Graafian follicle develops into corpus luteum?
a) Luteal phase
b) Follicular phase
c) Menstrual phase
d) Ovulatory phase
Explanation
Events of Menstrual Cycle and the Role of Hormones

Phase	Days	Changes in Ovary	Changes in Uterus	Hormonal Changes
Menstrual phase	4–5 days	Development of primary follicles	Breakdown of uterine endometrial lining leads to bleeding	Decrease in progesterone and oestrogen
Follicular phase	6th–13th day	Primary follicles grow to become a fully mature Graafian follicle	Endometrium regenerates through proliferation	FSH and oestrogen increase
Ovulatory phase	14th day	The Graafian follicle ruptures, and releases the ovum(egg)	Increase in endometrial thickness	LH peak
Luteal phase	15th–28th day	Emptied Graafian follicle develops into corpus luteum	Endometrium is prepared for implantation if fertilization of egg takes place, if fertilization does not occur corpus luteum degenerates, uterine wall ruptures, bleeding starts and unfertilized egg is expelled	LH and FSH decrease, Corpus luteum produces progesterone and its level increases followed by a decline, if menstrual bleeding occurs

76. Which of these hormones does not make changes in the ovary and the uterus?
a) Estrogen hormone
b) Calcitonin hormone
c) Progesterone hormone
d) Follicle stimulating hormone
Explanation
Changes in the ovary and the uterus are induced by the pituitary hormones (LH and FSH) and ovarian hormones (estrogen and progesterone).

77. Choose the Incorrect statements.
i) Human fertilization is internal and occurs at the female genital tract.
ii) Fertilization takes place in the ampulla of the fallopian tube.
iii) Fertilization must take place within 24 days.
a) i only
b) ii only
c) iii only
d) All the above
Explanation
Fertilization in human is internal and occurs in the oviduct of the female genital tract. It takes place usually in the ampulla of the fallopian tube. An oocyte is alive for about 24 hours after it is released from the follicle. Fertilization must take place within 24 hours.

78. Which is called as a fertilized ovum?
a) Gastrula
b) Zygote
c) Cleavage
d) Blastocyst
Explanation
The sperm enters into the ovum and fuses with it, resulting in the formation of a 'zygote'. This process is called fertilization. The zygote is a fertilized ovum.

79. What is a cleavage in the process of fertilization?
a) Forming a zygote in the ovum.
b) Rearrangement of cells.
c) Series of rapid mitotic zygote divisions.
d) Attaching the blastocyst into the uterine.
Explanation
The first cleavage takes place about 30 hours after fertilization. Cleavage is a series of rapid mitotic divisions of the zygote to form many celled blastula (Blastocyst) which comprises an outer layer of smaller cells and inner mass of larger cells.

80. Define implantation.
a) Process of attaching the fertilized egg (blastocyst) to the uterine wall.
b) Formation of germ layers.
c) Transformation of blastula into gastrula.
d) The sperm enters into the ovum and fuses with to form a zygote.
Explanation
Implantation: The blastocyst (fertilized egg) reaches the uterus and gets implanted in the uterus. The process of attachment of the blastocyst to the uterine wall (endometrium) is called implantation.

81. After how many days the fertilized egg is implanted in the uterus?
a) 15 to 20 days
b) 2 to 3 days
c) 6 to 7 days
d) 10 to 20 days
Explanation
The fertilized egg becomes implanted in about 6 to 7 days after fertilization.

82. What are the functions of gastrulation stage?
a) Transformation of blastula into gastrula.

b) Formation of primary germ layers.
c) Takes place after the implantation process.
d) All the above
Explanation
Gastrulation: The transformation of blastula into gastrula and the formation of primary germ layers (ectoderm, mesoderm and endoderm) by rearrangement of the cells is called gastrulation. This takes place after the process of implantation.

83. Which of these is not a germ layer?
a) Ectoderm
b) Endometrium
c) Mesoderm
d) Endoderm
Explanation
The establishment of the germ layers namely ectoderm, mesoderm and endoderm initiates the final phase of embryonic development.

84. At what stage the organs of the foetus attain a functional state?
a) Gastrulation
b) Lactation
c) Organogenesis
d) Implantation
Explanation
Organogenesis: During organogenesis the various organs of the foetus are established from the different germ layers attaining a functional state.

85. Assertion (A): The placenta is a disc shaped structure attached to the uterine wall of the mother.
Reasoning(R): Placenta is a permanent association between the developing embryo and maternal tissues.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
Formation of Placenta: The placenta is a disc shaped structure attached to the uterine wall and is a temporary association between the developing embryo and maternal tissues.

86. What are the usages of the placenta?
a) Exchange of food materials only.
b) Oxygen diffusion and carbon dioxide elimination.

c) Excretion of nitrogenous wastes.
d) All the above
Explanation
Placenta allows the exchange of food materials, diffusion of oxygen, excretion of nitrogenous wastes and elimination of carbon dioxide.

87. Which of these are connected by the umbilical cord?
a) Placenta and the foetus
b) Pituitary and the placenta
c) Foetus and the uterus
d) Foetus and the embryo
Explanation
A cord containing blood vessels that connects the placenta with the foetus is called the umbilical cord.

88. What is defined as the gestation period?
a) Time duration for the embryo to develop in the uterus.
b) Process of milk production after the child's birth.
c) Expulsion of young one's from the mother's uterus.
d) Development of two-identical twins.
Explanation
Pregnancy (Gestation): It is the time period during which the embryo attains its development in the uterus.

89. What is the normal gestation period of human?
a) 500 days
b) 625 days
c) 280 days
d) 150 days
Explanation
Normally gestation period of human last for about 280 days. During pregnancy the uterus expands up to 500 times of its normal size.

90. Choose the correct statements regarding Parturition.
i) It is the end of gestation period and expulsion of young one from the mother's uterus.
ii) Oxytocin from the posterior pituitary stimulates the contractions and forces to expel the baby from the uterus.
a) i only
b) ii only
c) Both i and ii

d) Neither i nor ii

Explanation

Parturition (Child Birth): Parturition is the expulsion of young one from the mother's uterus at the end of gestation. Oxytocin from the posterior pituitary stimulates the uterine contractions and provides force to expel the baby from the uterus, causing birth.

91. Assertion (A): Two eggs from ovaries fertilized by a different sperm results in Non-identical Twins.

Reasoning(R): Identical twins are developed by a single egg, fertilized and divided into two foetus.

a) Both A and R is True and R is the correct explanation of A.

b) Both A and R is True but R is not the correct explanation of A.

c) A is True but R is False.

d) Both A and R is False.

Explanation

Sometimes ovaries releases two eggs and each is fertilized by a different sperm, resulting in Non-Identical Twins (Fraternal Twins). If single egg is fertilized and then divides into two fetuses, Identical Twins develop.

92. Which of the following statements is not true regarding lactation?

a) The process of milk production after child birth from the mammary glands is called lactation.

b) Colostrum is the first liquid released from the mammary glands after child birth.

c) Milk production from the alveoli of mammary glands is stimulated from the posterior pituitary.

d) The milk ejection is stimulated by the oxytocin hormone.

Explanation

Lactation: The process of milk production after child birth from mammary glands of the mother is called lactation. The first fluid which is released from the mammary gland after child birth is called as colostrum. Milk production from alveoli of mammary glands is stimulated by prolactin secreted from the anterior pituitary. The ejection of milk is stimulated by posterior pituitary hormone oxytocin.

93. Choose the correct statements.

i) Colostrum is the milk produced during the first 2 to 3 days of child birth.

ii) Colostrum contains immune substances and provides immunity to the new born child.

a) i only

b) ii only

c) Both i and ii

d) Neither i nor ii

Explanation

The milk produced from the breast during the first 2 to 3 days after child birth is called colostrum. It contains immune substances and provides immunity to the new born which is essential for the body.

94. Which of these are included as the reproductive health by World Health Organization?
a) Ability to reproduce and regulate fertility.
b) Safe child birth.
c) Maternal and infant survival and well-being.
d) All the above
Explanation
According to World Health Organization (WHO) reproductive health means a total well-being in all aspects of reproduction, ability to reproduce and regulate fertility, women's ability to undergo pregnancy and safe child birth, maternal and infant survival and well-being.

95. Which of these are included in the national Family Welfare Program scheme?
i) Nutritional supplement to pregnant women and children.
ii) Primary education for children below 14.
iii) Maternal and child health care.
iv) Contraception with health education.
a) i, iv only
b) ii, iii, iv only
c) i, iii, iv only
d) iv only
Explanation
Family welfare program: The National Family Welfare Programme is a comprehensive scheme which includes:
1. Maternal and child health care (MCH)
2. Immunization of mothers, infants and children.
3. Nutritional supplement to pregnant women and children.
4. Contraception with health education, to motivate couples to accept contraceptive methods and to have small family norms which improve economic status, living status and the quality of life.

96. Which of these is not included in the Reproductive and Child Health Care program?
a) Pregnancy and child birth
b) Population control
c) Postnatal care of mother and the child
d) Prevention of reproductive tract infections and sexually transmitted diseases.
Explanation

Reproductive and Child Health Care (RCH) Programme: It has integrated all services which include Pregnancy and child birth , Postnatal care of the mother and child, Importance of breast feeding and Prevention of reproductive tract infections and sexually transmitted diseases.

97. When did Indian government launch the nation-wide family planning program?

a) 1952

b) 1970

c) 1959

d) 1968

Explanation

Population explosion defined as the sudden and rapid rise in the size of population especially human population. Realizing the dangers inherent in population growth, the Government of India has taken several measures to check population growth and introduced family planning. India has been one of the first countries in the world to launch the nation-wide family planning program in 1952.

98. Which is considered to be the best birth control measure?

a) Family Planning

b) Knowledge about the population effects.

c) Contraception devices

d) None of the above

Explanation

Contraception is one of the best birth control measures. A number of techniques or methods have been developed to prevent pregnancies in women. The devices used for contraception are called contraceptive devices.

99. Choose the Incorrect statements regarding the barrier method.

i) Barrier methods use the pills or tablets to stop the release of egg from the ovary.

ii) These methods can be used to protect against sexually transmitted diseases like syphilis and AIDS.

iii) Condoms and Diaphragm or Cervical cap are used in barrier method to prevent sperms to meet the ovum.

a) i only

b) ii only

c) iii only

d) All the above

Explanation

Barrier Methods: This method prevents sperms from meeting the ovum. Its entry into the female reproductive tract is prevented by barrier. Condom: Condom prevents deposition of sperms in the vagina. Condoms are made of thin rubber or latex sheath. Condom also protect against sexually

transmitted diseases (STD) like syphilis, AIDS. Diaphragm (Cervical cap): Vaginal diaphragm fitting into the vagina or a cervical cap fitting over the cervix. This prevents the entry of sperms into the uterus.

100. Which of these method use pills and tablets for interfere with ovulation process?
a) Hormonal method
b) Barrier method
c) Intra-Uterine devices
d) Tubectomy
Explanation
Hormonal Methods: Hormonal preparations are in the form of pills or tablets (contraceptive pills). These hormones stop (interfere with ovulation) the release of egg from the ovary.

101. Which of the following statements are not true regarding the Intra-uterine devices?
a) Lippe's loop and Copper-T are the synthetic devices commonly used in India.
b) It is used for reducing the sperm fertilizing capacity and prevents implantation.
c) IUD devices are used for permanent birth control.
d) IUD devices help to give adequate time interval between pregnancies.
Explanation
Intra-Uterine Devices (IUDs): The intrauterine device (IUD) is contraceptive devices inserted into the uterus. There are two synthetic devices commonly used in India are Lippe's Loop and Copper-T made of copper and plastic (non-irritant). This can remain for a period of 3 years. This reduces the sperm fertilizing capacity and prevents implantation. This also helps to give adequate time interval between pregnancies.

102. Assertion (A): The surgical contraception or sterilization techniques are terminal methods for permanent birth control.
Reasoning(R): The surgical procedure for male is vasectomy and for female it is Tubectomy.
a) Both A and R is True and R is the correct explanation of A.
b) Both A and R is True but R is not the correct explanation of A.
c) A is True but R is False.
d) Both A and R is False.
Explanation
Surgical contraception or sterilization techniques are terminal methods to prevent any pregnancy. This procedure in males is vasectomy (ligation of vas deferens) and in females it is tubectomy (ligation of fallopian tube). These are methods of permanent birth control.

103. Which is not a type of Urinary Tract Infection?
a) Asymptomatic Bacteriuria
b) Thyroid fluctuation

c) Kidney Infection
d) Cystitis Infection

Explanation

Many diseases affect both women and men, but a few diseases occur at a higher frequency in woman. Women are susceptible to UTI from the bacteria that are present on skin, rectum or vagina. This will enter the urethra, before moving upwards. The types of UTI are: Cystitis or Bladder infection, Kidney Infection and Asymptomatic Bacteriuria.

104. What are the main aspects of hygiene?
a) Food hygiene
b) Body hygiene
c) Environment hygiene
d) All the above

Explanation

Hygiene is the practice of healthy living and personal cleanliness. Personal hygiene is caring of one's own body and health. Social hygiene is proper care of the surrounding environment. The main aspect of hygiene is body hygiene, food hygiene, sanitary hygiene and hygienic environment.

105. What are the measures to be taken for maintaining toilet hygiene?
a) Washing hands before and after using toilets.
b) Clean and dry toilet floors to avoid infection and bad odor.
c) All the materials used inside toilet must be cleaned with disinfectants.
d) All the above

Explanation

The following measures can ensure toilet hygiene: The floors of the toilet should be maintained clean and dry. This helps to reduce the bad odor and also infection. Toilet flush handles, door knobs, faucets, paper towel dispensers, light switches and walls should be cleaned with disinfectants to kill harmful germs and bacteria. Hands should be washed thoroughly with soap before and after toilet use.

106. On which day the world menstrual hygiene day is observed?
a) May 28th
b) March 20th
c) June 1st
d) August 26th

Explanation

Every year May 28 is observed as Menstrual Hygiene day to make girls and women aware of maintaining menstrual hygiene and importance of menstrual hygiene for good health. By way of awareness through films discussions and campaigns menstrual hygiene has taken quite the center stage in recent days.

107. In which year the Indian government launched the menstrual hygiene scheme?
a) 1993
b) 2011
c) 2001
d) 1972
Explanation
The menstrual hygiene scheme to provide subsidized sanitary napkins was launched by the Health ministry in 2011. In Tamil Nadu, UNICEF has developed an affordable incinerator that uses firewood to handle sanitary napkin waste at schools and special wells are equipped where sanitary napkins are composted.