Biology Question Bank (Class- 12th)

Year 2016-2024

2018

Chapter-1(Reproduction in Organisms)

1.Give at least three differences between Asexual and sexual reproduction.(1.5)

2.Write three salient features of asexual reproduction.(1.5){2019},2022(2)

3.Write three salient features of sexual reproduction.(1.5)

2019

1.Describe Binary fission in Bacteria.(2)

2.Write three salient features of asexual reproduction.(2)

3.Describe grafting in angiosperms .(2)

2022

1.What is vegetative propagation? Give two suitable examples.(2)

2. Why is reproduction essential for the organisms?(2)

3.Write main characteristics of asexual reproduction.(2)

2024

1.Offsets are produced by

a) parthenocarpy b) meiotic division c) parthenogensis d) mitotic division (1)

2. Which of the following flowers only once in its life time?

a) Mango b) Bamboo c) Papaya d) Jackfruit (1)

3. In Ginger vegetative propagation occur through(1)

a) Runner b) Rhizome c) Offset d) Bulbils

Chapter -2(Sexual Reproduction in flowering plants)

2016

2 marks questions

1. Draw the well labelled structure of a mature pollen grain.
2. What is endosperm? Name the three types found in angiosperms .
3. Define parthenogenesis give one example .
4. Draw a well labelled diagram of internal structure of Bean seed.
5. Draw a well labelled diagram of T.S. of mature anther.
6. Describe the development of a dicot embryo in angiosperms.
7. Define grafting give an example.
8. Draw a well labelled diagram of maize grain..
9. Draw a well labelled diagram of L.S. of antatropous Ovule.
10. What is palynology?
11. Draw a germinating male gametophyte and label it.

2017

1.When the body of Ovule embryo sac micropyle and funicle all lie in one vertical plane the Ovule is
a) antatropousb)orthrotropous c) amphitropous d) campylotropous (1)

2.Sporopollenin is present in
a)Exine b)Intine c)both a and b d)none of the above (1)

2 marks questions

3.Define the following Juvenile stage reproductive phase senescent phase. ..
4.Write a short note on double fertilization in angiosperms.
5.Differentiate between self pollination and cross pollination.
6.Describe the post fertilization changes in a flower.
7.Explain the structure of female gametophyte with well labelled diagram.

2018

MCQ

1.Pollination through air is called

a) hydrophily b) entomophily c) anemophily d) myrmecophily

2.The study of fossil is :

a) Geronotology b) Phycology c) Mycorrhiza d) None of these

3. Entry of pollen tube through micropyle is:

a) porogamy b) mesogamy c) palynology d) chalazogamy

4.Filiform apparatus is found in

a) antipodals b) central cell c) secondary nucleus d) synergids.

Short/long questions

1.Write a short note on egg apparatus.(1.5)

2.What is triple fusion?(1.5)

3.Write a short note on endosperm.(1.5)

4.Draw well labelled diagram of mature embryo sac.(2.5)

5.Draw well labelled diagram of anatropous Ovule.(2.5)

6.Draw T.S. of anther.(2.5)

2019

1.Study of pollen grains is
a) emasculation b) palynology c) anemophily d) phycology (1)

Short /long questions

1.What is emasculation? Why it is done?(1.5)
2.Define :Mesogamy,Anemophily.(1.5)
3. Draw the structure of angiospermous embryo.(3)
4.What is perisperm? What is its role?(2)
5.Define porogamy and hydrophily.(2)
6.Write short note on following: a) Egg apparatus b) Endosperm(2)
7.What is secondary nucleus what is its fate when fertilized by a sperm?(2)
8.Define chalazogamy and ornithophily.(2)
9.What are the endospermic and non- endospermic seeds ? (3)

2020

MCQ

1.During microsporogenesis,meiosis occurs in:
a) Tapetum b) microspore mother cell c) microspore tetrad d) none of the above
2. Name one of the most resistant organic material:
a) lignin b) sporopollenin c) cellulose d) both a and b
3.The false fruits are the one in which fruits develops
a) ovary b) nucellus c) any other part other than ovary

short/long questions

1.Discuss the characteristics of wind pollinated flowers.(2)
2.Define oviparous animals,pericarp,Dithecous,geitonogamy(2)
3.Define the following: i) viviparous ii) non -albuminousseeeds iii) monothecus iv) gemmules .(2)
4.Explain emasculation.(1)
5.Discuss the characteristics feature of insect pollinated flowers.(2)

6.Define the following: a)secondary nucleus b) endospermic seeds c)megasporogenesis d)xenogamy.(2)

2021

MCQ

1. The true embryo develops as a result of fusion of :
a) Two polar nuclei of embryo sac b) Egg cell and male gamete c) Synergid and male gamete d) antipodals and male gamete.
2.Pollen grains are well preserved in fossils due to presence of:
a) Sporopollenin b) cellulose c) chitin d) lignin
3.In majority of angiosperms, pollen grains are shed at which stage?
a) 4- celled b) 2- celled c) 3- celled d) single - celled stage.
4.The residual persistent nucellus is called
a) pericarp b) perisperm c) coleorhiza d) hypocotyl
Directions :
In the following questions ,a statement of assertion is followed by a statement of reason.
Write in answer the correct choice as a or b or c or d.
a) If both assertion and reason are true and reason is the correct explanation of assertion.
b) If both assertion and reason are true ,but reason is not the correct explanation of assertion.
c) If assertion is true ,but reason is false .
d) If both assertion and reason are false.
5.Assertion:
Endosperm is a nutritive tissue and it is triploid .
Reason:
Endosperm is formed by fusion of secondary nucleus to second male gamete .It is used by developing embryo.
6. Assertion:
The two cotyledon in seed are embryonic leaves.
Reason :
The embryo contains radicle and plumule.
7.Assertion:
Gynocecium consists of pistil.
Reason:
It represents the male reproductive part in flowering plants.
8.Which of the following is not water pollinating plant
a) Zostera b) Vallisneria c) Hydilla d) cannabis
9.Sporopollenin,one of the most resistant organic material known is present in.....layer of pollen grain.
a) Intine b) exine c) both d) germ pore.
10.Pollen grains can be stored for years in
a) dry ice b) ice c) liquid nitrogen d) refrigerator
11. In monocot cotyledon is called
a) scutellum b) plumule c) radicle d) coleoptile
12. The layer which nourishes the developing pollen grains is
a) middle layer b) tapetum c) epidermis d) endothecium
13.The part of exine where sporopollenin is absent
a) Intine b) exine c) pore d) germ pore
14.Name the parts of carpel which receives pollen grain
a) style b) stigma c) Ovule d) ovary

15.A typical angiosperms embryo sac ,at maturity is
a) 8- nucleated ,8- celled b) 8- nucleated,7 celled c) 8-nucleated,6- celled d) 7- nucleated,8 – celled

short/long questions
1.What is double fertilization ? Write down its significance.(2)
2.Draw well labelled diagram of mature anther.(2)
3.What is endosperm ? Write down its significance.(2)
4.Draw well labelled diagram of anatropous ovule.(2)
2022
MCQ
1.Fusion of egg and sperm is known as:
a) Fertilization b) pollination c) ovulation d) none of these
2,Which one is female gametophyte ?
a) Embryo b) Embryo sac c) endosperm d) synergid
3.The outer layer of pollen grain is called:
a) Intine b) Tapetum c) endothecium d) exine
4.Entomophily is pollination through the agency of
a) Water b) insects c) animals d) air
5.The nutritive layer of anther is
a) Tapetum b) endothecium c) epidermis d) exothecium
6.In angiosperms plant, a mature embryo sac is
a) 8-celled and 8 nucleated b) 7 celled and 7 nucleated c) 7 celled and 8 nucleated
7.sporopollenin a chemical substance is found in
a) intine of pollen grain b) exine of pollen grain c) endothecium of anther d) tapetum of anther
8.Hydophily is pollination through the agency of
a) Air b) insects c) water d) animals
9.The female gametophyte in angiosperm is :
a) Carpel b) ovule c) embryo sac d) egg
10.Innermost layer of microsporangium is called
a) Epidermis b) Tapetum c) endothecium d) Middle layer.
11.Anemophily is pollination through the agency of
a) animals b) wind c) bird d) insects
short /long questions
1.What is double fertilization? Who discovered it?Write down it's significance.(4)
2.Draw a well labelled diagram of anatropous ovule.(1)
3.What is triple fusion? Where it takes place? Name the nuclei involved in triple fusion.(4)
4.Draw well labelled diagram of orthrotropousOvule.(1)
5.What is endosperm ? How it is formed? Name the three types of endosporms found in angiosperms.(4)
6.Draw a well labelled diagram of L.S. of monocot seed(Maize grain).
2024
1.What is tapetum and its functions.(2)
2.Define a)Xenogamy b) Pollination
3.Briefly describe the process of development of male gametophyte in angiosperm.(3)
4.Describe the structure of pollen grain and process of its germination .(2)
5.Define :a) Double fertilization b) endosperm (2)
6.Describe the process of development of female gametophyte in angiosperm.(3)

Chapter -3(Human Reproduction)

2016

MCQ

1.Human present derive from

a)Amnion b)Allantois c)Chorion d)Allantois and chorion

2.Menstrual cycle occurs due to lack of

a)Estrogen b)Progesterone c)FSH d)Oxytocin

2 marks questions

1.Draw a well labelled diagram of human sperm ..

2. What is placenta give its two functions.

3.What is Corpus luteum? What is its function

4.Draw a well labelled diagram of a section through ovary

2017

MCQ

1.In human beings the developing embryo resides in

a)Fallopian tube b)uterus c)ovaries d)vagina

2.5 marks questions

1. What is menopause explain briefly.
2. What is menstrual cycle and how does it differ from oestrus cycle.
3. What is puberty explain it briefly in human female..
4. Differentiate between spermatogenesis and oogenesis.
5. Draw a well labelled diagram of human sperm.

2018

1.Draw a well labelled diagram of graafian follicle.

2.Draw a well labelled diagram of mammalian sperm.

3.Draw a well labelled diagram of ovum.

2019

MCQ

1.Beginning of first menstruation is called

a)Menarche b)Capacitation c)Menopause d)None of these

2. Empty Graafian follicle transform into

a) Egg nest b) Primary follicle c) ovum d) corpus luteum

3.Cessation of menstrual cycle in human female is called

a)Menopause b)Ovulation c)Oogenesis d)None of these

short /long questions

2 marks questions

1.Draw a well labelled diagram of L.S. of Testis.

2.Draw a well labelled diagram of T.S. of ovary of human female.

3.Draw a well labelled diagram of ovum.

2020

3 and 4 marks questions

1.What is menstrual cycle? Which hormone regulate menstrual cycle in human females? Explain.

2.Draw a well labelled diagram of human male reproductive system.

3.What are the major accessory male sex glands?Give their location and discuss their major function.

4.Draw well labeled diagram of human sperm.

5.What is implantation? Explain briefly.Name the various hormones released by the placenta in humans.

6.What is parturition? Name it's various stages.Which hormones are involved in the induction of parturition?

7.Draw t.s of ovary.

2021

MCQ

1.Beginning /onset of menstrual cycle in human female is called

a)Menarche b) menses c) menopause d) fertilization

2.Testicular hormone are secreted by

a)Sertoli cells b) leydig cells c) prostate gland d) Bulbourethral gland

3.Name the hormone which is produced in women's only during pregnancy

a)Estrogen b)HCG c)LH d)Both a and b

4.Fertilization occurs at

a)Infundibulum b)Ampulla c)Ampulla - isthmus junction d) Both a and b

5.Assertion

In human mail testis are extra abdominal and lies in scrotal sac

Reason

Scrotum keeps scrotal temperature lower than the body temperature for normal spermatogenesis

6.Stoppage of menstrual cycle in human female is called

a)Menarcheb)Mensesc)Menopause d)Fertilization

7.Primary spermatocyte is

a)Haploidb)Diploid c)Triploid d)Tetraploid

8.Name the hormone which is produced in women's only during pregnancy

a)Estrogenb)HPL c)LH d)Both a and b

9.Implantation occurs at which embryonal stage

a)Gastrulab)Morula c)Blastocyst d)Both a and b

10.Assertion

Spermatogenesis starts at the age of puberty

Reason

There is significant increase in the level of gonadotropin releasing hormone at puberty

12.Bleeding period of menstrual cycle in human beings is called

a)Menarcheb)Menses c)Menopause d)Fertilization

13.Secondary spermatocyte is

a)Haploid b)Diploid c)Triploid d)Tetraploid

14.Name the hormone whSection B, subjective type questions. ich is produced in women's only during pregnancy

a)Oestrogen b)Relaxinc)LH d)Both a and b

15.Germ layers formation occurs that which embryonal stage

a)Gastrula b)Morula c)Blastocyst d)Both a and b

16.Assertion
Interstitial cell is present in the region outside the seminiferous tubule called interstitial spaces
Reason
Interstitial cells provide nutrition to sertoli cells

Short/Long Questions

1.Define ovulation, implantation.(2)
2.What is the function of bulbourethral glands?(3)
3.What is spermatogenesis? Briefly describe the process of spermatogenesis.(3)
4.Define spermiation, menarche.(2)
5.What is the function of sertolicells.(2)
6.Draw t.s .of testis.(2)
7.What is menstrual cycle? Explain various phases.(3)
8.Define menopause, fertilization.(2)
9.What is the function of leydig'scells.(2)
10.Draw the structure of sperm.(2)
11.What is Oogenesis? Give a brief account of Oogenesis.(3)

2022

MCQ

1. In a human female the first menstruation begins at puberty and is called
a) Menses b) menarche c) ovulation d) puberty
2.The function of acrosome
a) To give direction b) to help entry of sperm into ovum c) protection d) to give shape
3.The attachment of embryo to the uterine wall
a) attachment b) implantation c) prolactin d) sterilization
4.Menarche is
a) Phase in woman's life when ovulation stops b) condition when woman produces more ova c) Beginning of menstruation in woman d) Phase in woman's life when menstruation stops
5.Middle piece of a mammalian sperm contains
a) nucleus b) centriole c) mitochondria d) vacuole
6.The cavity of blastula is
a) Archenteron b) Blastocoel c) Blastomeres d) Coelom
7.Human female reaches menopause around the age
a) 15 years b) 25 years c) 50 years d) 75 years
8.In man the sperms are produced in
a) Seminiferous tubule b) vasa efferentia c) Rete testis d) ovary
9.The outer layer of blastocyst is called
a) yolk sac b) chorion c) trophoblast d) amnion

short/long questions

1.Draw a well labelled diagram of L.S. of Testis.(2)
2.What is Oogenesis? Give a brief account of Oogenesis.(3)
3.Draw the structure of sperm.(3)
4.What is spermatogenesis? Briefly describe the process of spermatogenesis.(3)
5.What is puberty? Give characteristics of puberty in human male.(3)
6.Name the male sex hormone.(1)
7.What is menstrual cycle? Explain the process in detail.(3)

8.Name the pregnancy hormone.(1)
9.What is placenta? Write down it'sfunctions.(3)

2024
MCQ
1.Beginning of first menstruation is called
a)Menarche b)Capacitation c)Menopause d)None of these
2.Cessation of menstrual cycle in human female is called
a)Menopause b)Ovulation c)Oogenesis d)None of these
3.Oestrus cycle found in
a)Monkey b)Ape c)Cow d)Human
short/long question
2marks questions
1.Draw a well labelled diagram of TS of human testis.
2.Draw a well labelled diagram of TS of human ovary .
3.Draw a well labelled diagram of human sperm.

Chapter -4(Reproductive health)

2016
MCQ
1.MTP is considered safe up to how many weeks of pregnancy
a)6 weeks b)18 weeks c)12 weeks d)8 weeks
short and long questions
2 marks questions
1.Name and explain any two assisted reproductive techniques which have decreased the number of cases of infertile couples
2.What is amniocentesis? Give its procedure and significance
3.Describe any three methods of birth control
2017
2 marks questions
1.Suggest the aspects of reproductive health which need to be given attention in the present scenario
2.What is a new sentences? How is it misused in our society
3.Do you think that reproductive health in our society has improved in the past 15 years? If yes mention some such areas of improvement
4.What are the measures one has to be take to prevent from contacting STD.
2018

1.Expand GIFT,VD,AID (1.5)
2.Expand AIDS,MTP,AI(1.5)
3. Expand ZIFT,STD,AIH.(1.5)
2019

MCQ(1 mark)

1.Birth rate is called
a)Mortality b) Emigration c) immigration d)natality
(2 Marks Ques.)

2. Expand the terms: ZIFT,VD,IUT,RTI
3.Expand the terms: MTP,IVF,ART,AIDS
4.Expand the terms: STD,GIFT,AI,VD

2020

MCQ(1Mark)

1.Which of the following is a method of birth control?
a)IVF b) GIFT c)IUD d)all the above

(2 marks Ques.)

1. Do you think that reproductive health in our country has improved in past 50 years? If yes, mention the areas of improvement.
2. Explain a)lactation amenorrhea b)MTP
3. What are the measures one has to take for the prevention from STDs.?
4. Explain GIFT. (1)
5. What is infertility? Suggest some methods of assist infertile couples to have children.
6.Expand the following terms: IUI ,ZIFT

2021

MCQ (1 mark)

1.IMR stand for?
a)Infant mortality rate b)Intact mortality rate c) Instant mortality rate Infact mortality rate
2.Which of the following is a method of birth control?
a) IUDs b) GIFT c) HTF d) IVF-ET
3)Family planning programme was initiated in
a)1950 A.D b)1950 A.D c)1991 A.D d) 1850 AD
3.Assertion: A Wide range of contraceptive methods are available for family planning.
Reason:Natural methods includes condoms,diaphragms, etc while barrier method is use of included method like periodic, abstinence, lactational amenorrhea etc
4.RC H. Stand for
a)Recent child care b)reinforced child care real c) real child care d) reproductive and child health care
5.Which of the following is a non-medicated intrauterine device?
a)Cu T b)lipped loop C) Cu7 d)LNG 20
6.Emergency contraceptives are effective if used with
a)72 hours of coitus b) 72 hours of fertilization c) 72 hours of ovulation d) 72 hours of menstruation
7.Assertion:Introduction of sex education in schools should be encouraged
Reason :This will encourage children to believe in myths about sex related aspects
8.MM R stands for
a)Mass mortality rate b)minute, mortality rate c) metrix mortality rate d) maternal mortality rate
9.Multiload devices contains
a)Mn b Fe c)Cu d) Ca
10.MTP considered safe up to – weeks of pregnancy
a)14 b) 2 c) 12 d)16
11.Assertion: Contraceptives are the methods to prevent unwanted pregnancies
Reason: Unwanted pregnancies can only be prevented by using oral contraceptives

Long questions

1.Expand ZIFT,ICSI (2)
2. Write a note on IUDs.(3)
3. Write a note on Infertility.(3)

4. Explain the GIFT,IUI.(2)
5. Write a short note on MTP.(3)
6. Write a short note on tubectomy.(3)
7.Expand MMR,AI.(2)
8. Write a short note on vasectomy.(3)
9. Write a note on STI.(3)

2022

MCQ

1.Surgical sterilisation procedure in mail is called
a)Vasectomy b)tubectomyc)Sterilisationd)castration
2.Amniocentesis is a technique to
a)Estimate essential acids in the baby b) detect chromosomal abnormalities in the foetus c)reverse sex of the fetus d)Correct genetic disorders of the fetus
3.MTP or considered safe up to
a)During the second trimester b)During the third trimester c)During the fourth trimester d) During the first trimester
4.The test-tube baby means
a)A baby born in a test tube b)fertilised and developed in test tube c)Fertilised and developed in uterus d)fertilised in vitro and transplanted in the uterus
5.Surgical sterilisation procedure in human female is called
a)Vasectomy b)tubectomy c)castration d)sterilisation
6.During amniocentesis, chromosomal, abnormalities of the foetus can be detected by taking the sample of
a)Fetal blood b)mothers blood c) fluid surrounding the foetus d) body fluid from the mother

short and long questions

1. Expand ICSI,MMR,STD,WHO.(2)
2.Is sex education necessary in school? Why?(2)
3. Expand ZIFT,IUD,VD,AI.(2)
4. What is artificial insemination? What is its significance?(2)
5.Expand GIFT,IVF-ET,MTP,RCH.(2)
6.How STDs can be prevented?(2)

2024

1.Write a short note on MTP.(2)
2.Write a short note on IUDs.(2)
3.Write a short note on infertility.(2)

Chapter-5 Principle of inheritance and variations

2016

MCQ

1.Genetics term was proposed by
a)Mendel b)Bateson c)Morgan d)Johnson
2.Across between F1 hybrid and recessive parent is called
a)Monohybrid cross b)Dihybrid cross c)Test cross d)Reciprocal cross
3.Persons having genotypes IAIB would show the blood group as AB. This is because of
a)Pleotropy b)Codominance c)Segregation d)Incomplete dominance

short and long questions

2 and 3 marks questions

1.What are multiple Allele? give one example. 2
3.What is point mutation? Give an example.2
4.State and prove mendel's law of purity of gametes.3
5. Define the term codominance with one example. 3
6. How did Mendel make sure that the pea plants were true breeding ? 2
7.How is down syndrome produced ?2
8.Who proposed chromosomal theory of inheritance what are the main points of this theory? 3
9.What is incomplete dominance give one example.3
10.Who re- discovered mendalism ?2
11.Explain the law of independent assortment in terms of dihybrid cross with a suitable example . 3
2.What is numerical chromosomal meditation? Give its three genetical disorders. 3

2017

MCQ

1.Okazaki fragments give rise to
a)Master strand b)Sense strand c)Lagging strand d)Leading strand

short and long questions

1.What are linked genes? How can a pair of linked genes be identified? 2
2.What are genetic maps? How can genetic maps be prepared.2.5
3.Explain mendel's law of segregation with suitable example. 2.5
4. What is test cross and how does it differ from backcross? 2.5

2018

MCQ

1. Alternate forms of a gene is called (1)
a) Allele b0 genome c) Chiasma d) Exon
2. Mendel conducted experiment on which plant? (1)
a) Cannabis b) Rose c) Pea d) Castor
3. Who was famous Indian Palaeobotanist? (1)
a) T.H. Morgan b) Prof BirbalSahni c) Sutton d) G.J . Mendel
4.How many contrasting characters studied by mental in pea plant? (1)
a)9 b)7 c)10 d)14

short and long questions

1.Write a short on Down's 'syndrome 1.5
2. Write a short note on Turner's syndrome. 1.5
3.Write a short note on Klinefelter's syndrome. 1.5
4.Describe incomplete dominance with suitable example. 2.5
5.What will be the phenotype of F_1 generation when a haemophilia man (X^hY) marries a normal woman (XX)? (2)
6. Explain the law of dominance with suitable example. (2.5)
7.What will be the phenotype of F1 generation when a haemophilic man XhY Marry is a carrier woman XhX?(2)
8. What will be the phenotype of F_1 generation when a normal man (XY) marries a carrier woman (X^hX) for haemophilia? (2.5)

9.Describe Codominance with suitable example. (2.5)

2019

MCQ

1. The possible genotype of blood group A in heterozygous condition
a)IAi b) IAIA c) IAIB d) ii
2.The possible genotype of blood group O is
a)IBi b)IAi c)ii d) IAIB
3.Which condition is the heterozygous
a)Tt b)TT c)tt d)All the above

Short /long questions

1. Give the genotypic and phenotypic ratio of F1 generation when a hybrid tall Tt pea pea plant is crossed with a pure dwarf tt pea plant.(2)

2. Illustrate the co-dominance with example.(3)

3. Why drosophila is suitable for genetic research?(2.5)

4. Why Mendels work remain hidden for so many years?(2.5)

5. Define sex determination XX-XY and ZZ-ZW types of sex determination.(2.5)

6. What will be the genotypic and phenotypic ratio is of F1 generation when a hybrid tall Tt pea plant crossed with hybrid tall Tt pea plant .(2.5)

7. What are the features of criss-crossinheritance?(3)

8. Write short note on
a)Pleiotropy b)Linkage (2)
9. What will be the genotypic and phenotypic ratio of F1 generation VenuParor tall TT pea plant is crossed with dwarf tt pea plant ? (2)

10. Who rediscovered Mendels law? (2.5)

11. Why Mendel selected Pea plant for genetic research?(2.5)

12. Define mutation what are its main types? (3)

13. Discuss the complete process of crossing over.(3)

14. What are the features of criss cross inheritance?(2.5)

15. Describe incomplete dominance with suitable example.(3)

2020

MCQ

1.Haemophilia is man is due to

a)Sex linked inheritanceb)Sex Limited inheritancec)Non-disjunctiond)Sex influenced inheritance

2.Klinefelter syndrome is due to following conditions

a)XYY b)XXY c)Only X d)Only Y

3.Phenylketonuria is due to

a)Autosomal recessive gene b)Autosomal dominant gene c)Polyploidy

d)Trisomy of 21 chromosome

Short and long questions

4.Explain why TH Morgan selected, drosophila melanogaster for his reading experiment.(2)

5.Define and explain test cross with suitable example.(2)

6.Explain Mendels law of segregation be suitable example.(3)

7.What is criss-cross inheritance explain with the help of example.(3)

8.Explain the term aneuploidy. differentiate it from polyploidy.(2.5)

9.Describe the individual having following chromosomal abnormalities

XOXXY (2.5)

10.Explain why Mendel selected by Pisumsativum for his breeding experiments.(2)

11.When a Cross is made between tall plants TtYy and yellow seeds and tall plants and green seedsTtyy .what proportion of phenotype offspring could be expected to be

a)Tall and Green b)Dwarf and green (3)

12.Explain the concept of co-dominance with suitable example (2)

13.Who gave the chromosomal theory of inheritance discuss its main postulates.(2)

14.A child has a father has blood group, B and mother has blood group work out the phenotypes of parents and possible genotypes and phenotype of other offspring.(3)

2021

MCQ

1.Define dihybrid. Phenotypic ratio is

a)1:2:1 b)3:1 c)9:3:3:1 d)9:2:2:1

2.Turners syndrome have karyotype
a)AA+XXY b)AA+XY c)AA+XO d)AA+XXXX
3. The Monohydrid phenotypic ratio is :
a) 1:2:1 b) 3:1 c)9:3:3:1 d)9:2:2:1
4.Turner's syndrome have karyotype:
a) AA+XXY b) AA+XO c)AA+XY d) AA+XXXX
5.The monohybrid genotypic ratio is:
a) 1:2:1 b) 3:1 c) 9:3:3:1 d)9:2:2:1
6. Klinefelter's Syndrome have karotype
a) AA+XXY b)AA+XO c)AA+XY d)AA+XXXX
5.Assertion:The cross between the F1 progeny and either of the parent types is a test cross.
Reason: The cross between F1 progeny and the double recessive genotype is back cross.
6.Assertion:In Mirabilis selfing of F1 pink flower plants produces same phenotype and genotypic ratio.
Reason: Flower colour gene shows the incomplete dominance.
7. Assertion:In a monohybrid cross F1 generation indicate dominant characters.
Reason: Dominance occurs only in heterozygous state.

Short and long questions

4. Write down the possible blood group in offspring of parents having blood group O and B.(2)
5. What is colour Blindness? Why is it called sex linked disease/disorder?(2)
6. What is incomplete dominance?Explain it with the help of a suitable example.(3)
7. Write down the possible blood groups in offspring of parents having blood group A and O.(2)
8. What is sickle cell Anaemia? Is it a sex –linked disorder or autosomal disorder?(2)
9.Explain the law of segregation with a suitable example of monohybrid cross.(3)
10.Write down the possible blood groups in offspring of parents having blood group A and AB.(2)
11.What is Haemophilia ? Why is it called sex-linked disease/disorder?(2)
12.What is co-dominance? Explain it with the help of suitable example.(3)

2022

MCQ

1.Heterozygous individuals have:
a) Similar alleles b) Different alleles c) Both a and b d)None of these
2.A cross between F1 hybrid and either of any parent is called:
a) Test cross b) Reciprocal cross c) Monohybrid cross d) Back cross
3. If father has blood group O and mother has blood group O. What are the possibilities of blood group in its offspring?
a) A b) O c) B d) A,B,AB and O
4. In human beings,sickle –cell anaemia is a …….. disorder.
a)Autosomal b)Sex-linked c) Both a and b d) None of these
5.Number of characters studied in GardenPea by Mendel were:
a)5 b)3 c) 1 d) 7
6.A cross between a given offspring and pure recessive parent to know its genotype is called:
a) Test cross b) Back cross c) Monohybrid cross d) Reciprocal cross

7.If father has blood group A and mother has blood group AB then what is possibility of blood group in its offsprings:

a)A b) A,B and AB c) O d) A,B,AB and O

8.Haemophilia is…. Disorder.

a) Autosomal b) Sex –linked c) Both a and b d) None of these

9. Who is regarded as father of genetics?

a) T.H. Morgan b) G.J. Mendel c) Hugo de Vries d) Bateson

10. Test cross is a cross between

a) F1 hybrid with homozygous parent b) F1 hybrid with homozygous recessive parent

c) Two F1 hybrids d) None of the above.

11. If father has blood group A and mother has also blood group A then what are possibilities of blood group of their offspring.

a) A and O b) B c) O d) A,AB ,B and O

12. Human have…. Type of sex-determination.

a) XX-XO b) XX-XY c) Both a and b d) None of these

13. Assertion: Drosophila is commonly used in the study of genetics

Reason: Because it is very small and its life cycle is short.

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

short and long questions

1.What is imcomplete dominance? Give one example.(2)

2.What is linkage ? Differentiate between complete and incomplete linkage. (1.5)

3.What is Klinefeltersyndrome.Give its symptoms.(1.5)

4.What is Co-dominance ? Explain with an example.(2)

5.What is crossing over? Explain its Mechanism.(1.5)

6. What is Turner's Syndrome ? Give its symptoms.(1.5)

7. What is Down's syndrome? Give its symptoms.(1.5)

2024

MCQ

1.The Father of experimental genetics is:

a) G.J.Mendel b) Sir Archibald c) Bateson d) T.H. Morgan

2. The possible genotypes of blood group A in heterozygous condition

a) IA I b) IAIB c) IAIA d) ii

3. Who is the father of Genetics?

a) Mendel b) Bateson c) Morgan d) Johannsen

4. The possible genotype of blood group O is

a) IBi b) IAi c) ii d) IAIB

5. A man with blood group A married a woman blood group B . What are the possible blood group of their offsprings?

a) A b) A,B c) A,B and AB d) A,B,AB and O

short and long questions

6. When a cross is made between Tall plant with yellow seed TtYy and Tall plant with green seed Ttyy. What proportion of phenotype offspring expected?(2)

7. Why Mendel selected pea plant for his breeding experiment?(3)

8. Enlist seven characters of pea plant studied by Mendel.(3)

9. Write down the possible blood group in offsprings of parents having blood group A and AB.(2)

10.What are the reasons for Mendel's success?(3)

11. What is Law of segregation? Explain it with the help of a suitable example.(3)

12.What is incomplete dominance? Explain with the help of an example.(2)

13. What is XX-XY type of sex determination ? Explain in detail.(3)

14. What is co-dominance? Explain with an example.(3)

Chapter -6

Molecular Basis of Inheritance

2016

Short and long questions(3 &4marks)

1.Explain the principle and function of ELISA.
2.What is central dogma concept who proposed it.

3. Describe Meselson and stahl experiment to show that DNA replication is semi conservative.
4. Explain repressible operon in Escherichia coli.
5. Describe the central dogma concept. Who proposed it?

6.Show by a labelled sketch of lac operon Escherichia coli .

2017

Short and long questions

1. Differentiate between leading strand and laggings strand.
2.Define genetic code. Discuss the characteristics of genetic code .
3.How is protein synthesis initiated in a cell? Explain its mechanism .

2018

Short and long questions

1.What is genetic code give its two characteristics 1.5.

2.What are Okazaki fragments (1)

3.Differentiate between leading and lagging strand 1.5.
4.Give three differences between DNA and RNA 1.5.
5.Enzyme ligase helps in
i)Cleaving DNA ii)Joining DNA fragments iii)Both joining and cleaving
iv)None of these 1
6.Write a short note on DNA fingerprinting. 1.5.
7.Give three differences between replication and transcription. 1.5.
8.DescribeGriffith experiment of transformation 2.5.
9.The shape of replication fork is
i)Y shaped ii)Z shaped iii)A shaped iv)B shaped 1
10.Describe LAC operon in detail. 2.5.

2019

MCQ

1.Coding, sequences or for
a)Termination b)Exon c)Jumping genes d)Introns
2.Enzyme that cut the DNA add a desired point
a)Ligase b)Restriction endonucleases c)Polymerase d)Gyrase
3.Self duplication property of DNA is
a)Replication b)Oncogeneis c)Transcription d)Teminism
4.Transcription start at
a)Terminator region b)Anywhere on DNA c)Intron d)Promoter region

short and long questions

5.With the help of Meselson and Stahl experiment prove that DNA mode of replication is semiconservative type. 3
6.Describe briefly the DNA replication. 3
7.Describe brieflyGriffith experiment. 3

2020
MCQ

1.Which was the last Human chromosome to be completely sequenced in HGP?
a)Chromosomal 1 b) Chromosomal 10 c) chromosome 18 d) chromosome Y

2.Which of the following human chromosome has most number of and least number of genes respectively?
a)Chromosome X and Y b) Chromosome 11 and 21 c) Chromosome Y and 18 d) Chromosome 1 and Y
3.Discontinuous synthesis of DNA occurs in one strand because:
a)DNA molecule is very long b) It is a more efficient process c) DNA dependent RNA polymerase catalyses d) Both a and c

Short and long questions

4.Name the enzymes involved in DNA replication and their main functions.(2)

5.What is DNA fingerprinting distance the principal fingerprinting? Write down its mean application .5
6.What is HGP? Why it is called a mega project? Discuss salient features of this project. 5
7.What is transcription discuss the process of transcription. 5

8.What is an operon. discuss the structure of operon.explain the lac operon in detail 5
9.What is genetic code? Explain the following in reference to genetic code? 5
i) unambiguous
ii) degenerate
iii) universal
iv) initiator and terminator codons

2021
MCQ

1.Amino acid acceptor end of tRNA Lies at
a)5'end b)3'endc)DHU loop d)None of these
2.r RNA is transcribed by
a)RNA polymerase III b)RNA polymerase II c)RNA polymerase I d)RNA polymerase IV
3.Stop codon is
a)AUG b)UAA c)UGA d)Both b and C
4.Okazaki fragments are produced over
a)Leading strand b)lagging strand c)both a and b d)none of these
5.mRNA is transcribed by
a)RNA polymerase III b)RNA polymerase II c)RNA polymerase I d)RNA, polymerase IV

6.Stop codon is
a)AUG b)UAG c)UGG d)AAA
7.During the expression of an operon RNA polymerases binds to
a)Structural gene b)Regulator gene c)operator d)promoter
8.TRNA is transcribed by
a)RNA, polymerase III b)RNA polymerase II c)RNA polymerase I d)RNA polymerases IV
9.Initiation codon is
a)AUG b)UAA c)UGA d)AAA

short and long questions

10.Give schematic structure of a transcription unit. 2
11.Hershey and cheese proved DNA as genetic material. Explain the experiment done by them to do so. 5
12.What is replication? Explain its mechanism in detail. 5
13.Draw the structure of nucleoside. 3
14.What is transforming principal? Explain it with the help of experiment done by the Frederick Grift. 5
15.What is transcription? Explain its mechanism in detail. 5
16.Draw the structure of tRNA. 2
17.Biochemical characterisation of transforming Principal was done by OT Avery, Colin Macleod done by them to do so. 5
18.Discuss the lac operon in detail. 5

2022

MCQ

1.In DNA adenine binds with thymine by
a)Double bond b) single bond c)triple bond d)both a and b
2.Anti-codon is associated with tRNA
a)mRNA b)rRNA c)genetic RNA d) None of these
3.Which step does not occur in translation
a)Splicing b)Termination c)Elongation d)Initiation
4.Nitrogenous base present in RNA and not in DNA is
a)Adenine b)Uracil c)Guanine d)Cytosine
5.A codon on mRNA have
a)1 base b)3 base c)2 base d)4 base
6.The enzyme involved in transcription is
a)DNA polymerase I b)DNA polymerase III c)RNA polymerase d)DNA polymerase II
7.Assertion :The genetic code is degenerate
Reason :Because the most amino acid have more than one codon
8.Which nitrogenous base absent in DNA is
a)Adenine b)Cytosine c)Thymine d)Uracil
9.The genetic code a occurs in
a)DNA b)Protein c)tRNA d)mRNA
10.Process of synthesis of mRNA from DNA is
a)Translation b)Translocation c)Termination d)Transcription

11.Assertion:DNA is associated with proteins
Reason:Histones from nucleosome along with DNA
Short and long questions
12.Differentiate between DNA and RNA .1.5
13.Replication and transcription. 2
14.Exons and introns 1.5
15.What is anti-codon? 1
16.What is HGP ? Write salient features of HGP. 4
17.Differentiate between coding and template strand. 1.5
18.Replication and translation 2
19.Stop codon and start codon 1.5.
20.What do you understand by the term central dogma of molecular biology . 1
21.Expand HGP? Why HGP is called mega project. 4
22.Differentiate between codon and anti-codon, 1.5
23.transcription and translation 2
24.mRNA and tRNA 1.5
25.What is codon? 1
26.What is genetic code? Discuss the characteristics of genetic code. 4

Chapter –Evolution

2016

MCQ

1.Missing link in evolution is
a)Peripatus b)Limulus c)Archeopterx d)Pheretima
2.Book Philosophic Zoologique was written by
a)Darwin b)Hugo de Vries c)Lamarck d)Weissman
3.First life on earthworm
a)Autotrophs b)Cyanobacteria c)Photo autotrophs d)Chemo heterotrophs

short and long questions

4.How do palaetological evidence support the ID of organic evolution? Give two examples?
5.What are the main points of Darwin theory of natural selection
6.How did Miller Urey provedoparinhaldane in theory of origin of life
7.Give post to leads of Darwin theory of evolution
8.Differentiate between connecting links and missing links
9.How do embryological evidences support the idea of organic evolution? Give two examples.3
10.What are the main points of theory of mutation proposed by Hugo d vries ?3
11.What are missing link give one example .2
12.What is atavism give example .2

2017

Short and long questions(3 marks)

1.Describe human evolution in brief .
2.What is DNA fingerprinting give its three advantages?
3.How did Harshey and chase prove that DNA is the genetic material?
4.What are the main points of operinhaldane in theory of origin of life

5.What are connecting links explain with two examples
6.Write a short note on Darwin finches.

2018

MCQ

1.The study of fossil is
a)Gerontology b)Phycology c)Palynology d)Palaeontology
2.The technique by which age of the fossils can be calculated
a)Carbon dating b)Ornithology c)Mycology d)none of these

short and long questions

1.Define missing links. With example. 1.5.
2.What are the advantages of erect posture and large brain to human over other primates? 3
3.How analogous and homologous organs differ. 2
4.What are missing links?2
5.What are the factors that are responsible for extinction? 3
6.What is a Hardy Weinberg Principle's.
7.Enlist any four vestigial organs in human beings. 2
8.What is homologous organs? Give suitable example.2
9.Write a short note on atavism. 2
10.Explain atavism with example. 1.5
11.Defines speciation. Discuss its types. 3
12.Define connecting link. With example. 1.5
13.Give six differences between ape and man. 3

2020

Short and long questions

1.Write briefly about Founder effect .2
2.Write a short note on the analogous organs and missing link. 3
3.Short note on homologous organs and connecting link. 3
4.Comment on the statement ontogeny repeat is phylogeny. 3

2022

MCQ

1.Assertion: Hugo de Vries believed mutation caused speciation.
Reason: Mutation is the only cause of evolution.
2.Assertion: Evolution leads to speciation.
Reason: Evolution is derivation of new species of plants and animals from those existed in past.
3.Assertion: Big bang theory attempts to explain the origin of universe.
Reason: Big bang is a singular huge explosion.

Short and long questions

4.Write a short note on Hardy-Weinberg Principle. 2
5.What are adaptive radiation? Give example. 2
6.Differentiate between analogous organs and homologous organs. 2
7.Write a note on Founder effect. 2
8.Differentiate between convergent and divergent evolution. 2

2024

MCQ

1. Origin of life was written by:

a) S.L.Miller b) A.I. Oparin c) De Vries d) Charles Darwin

2. The Gas present in the early reducing atmosphere was:
   a) O2 b) N2 c) Both a and b d) None of these
3. Book PhilosophieZoologiue was written by:
   a) Darwin b) Hugo de Vries c) Lamarck d) Weismann
4. The compound present in early reducing atmosphere was:
   a) CH4 b) NH3 c) Both a and b d) None of these
5. Name of sail ship of Charles Darwin is:
   a) H.M.S.Beagle b) M.H.S. Beagle c) S.M.H.Beagle d) H.S.M.Beagle
6. Who proposed recapitulation theory?
   a) E.Haeckel b) Lamarck c) Darwin d) de Vries

Short and long questions

1. What are the analogous organs? Give an example. 2
2. Define atavism.Give an example. 2
3. Industrial Melanism is an example of Natural selection.Explain it. 3
4. How did Darwin explain the existence of different variation of Finches on Galapagos Island? 3
5. What are vestigial organs? Give two examples of Vestigial organ in Man. 2
6. Explain Hardy-Weinberg equilibrium principle. 3

Chapter-8
Human Health and Disease

2016
MCQ

1.Cirrhosis of liver is caused by chronic intake of
a)Opium b)Alcohol c)Bhang d)Tobacco chewing
2.Which of the following is an opioid drug
a)Cocaine b)Charas c)Heroine d)Marijuana
3.Cannabis sativa is the source of
a)Opium b)LSD c)Marijuana d)Cocaine

Short and long questions (2.5 and 3 marks)

4.Explain the principle and function of ELISA.
5.Distinguish between Bcells and Tcells
6.What are the three main preventive measures to control the AIDS
7.What is a single cell proteins advantages
8.What is addiction? Name the chemical in tobacco which makes one addict
9.What are interferons? How do they act
10.List of pathogen, symptoms and control measures of following diseases
a)Tuberculosis b)Poliomyelitis

11.What are bio reactors?
12.What are interferons name want disease controlled by them .
13.What are stimulance? Give two examples and their effects.
14.List the pathogen symptom and control measures of following diseases.
a)AIDS b)Cholera
15.List any three danger signals of cance.r
16.What are tranquilizer? Name two examples with their effects.
17.Draw a well labelled diagram of HIV.
8.What are the three major types of cancer explain each type.

2017
MCQ
1.Widal test is used for the diagnosis of
a)Malaria b)Pneumonia c)Tuberculosis d)Typhoid
short and long questions
2.Write the name of causal organism, symptoms and modes of transfer of typhoid
3.Explain the following terms allergy antibiotic
4.What are narcotics? Discuss the withdrawal symptoms and treatment of opioid toxicity?

2018
Short and long questions

1.What are the pathogens of following diseases? 1.5

a. Amoebasis b) AIDS c) Pneumonia.

2.What are the pathogens of following diseases. 1.5

a) cholera b) rabies c0 Ringworm

3.What are the pathogens of following diseases? 1.5

a)Pneumonia b)measles c) elephantiasis.

4. Give four postulates of Robert Koch about diseases. 1.5

5. Define incubation period. 1

6.What is allergy? What are its symptoms? How it can be prevented? 2.5

7.What are psychotropic drugs? Describe its various types briefly. 2.5

8.What are interferons How did check viruses? 2

9.How hybridoma cells are produced? 2

10.Expand SCID. 1

11.What is drug addiction? How it begins? 2.5

12.What are antibiotics ? give their properties. 2.5

13.Differentiate between B –cells and T-cells. 2.5

14.What is opium ? From which is used to generate disease free plants and why? 2.5

15.Define vaccine.Whocoinded this term? 2

16.Write various uses of steroids? 2

17.Define Xenotransplantation. 1

2019

MCQ

1.Nicotine is synthesized in

a)Roots b) Leaves c) Flowers d) Fruits

2.Viral infected cells secrete

a)Prionb) Lymph c)interferon d) All the above.

3.The chemicals produced by microbes that are. Used to kill other microbes are.

a) antibodies b)antigen c) antibiotics d)None of these.

4.Emphysema is the disease of

a) heartb)lungsc) kidneys d) stomach.

5. Ringworm is caused by

a)Trichophytonb)Epidermophytonc)both a and b d) none of these

6.Opium is obtained from

a)white poppy b) hemp plant c) ergot Fungus d) Tea plant

7.Confirmatory test for typhoid is

a) ELISA b) Western body c)widal test d) all the above

Short and long questions

1.What is the pathogen of filariasis ? How it can be prevented? 2

2.What are interferons How they act? 2

3.What Is the pathogen of ascariasis ? How it can be controlled? 2

4.Name the pathogen of Amoebiasis. What are its preventive measures? 2

5. Write a short note on vaccines.

2020

MCQ

1.Chemical test that is used for to diagnosis of typhoid is.
a)widal test b) ELISA c) Chromosomal study d) ESR

2.Pneumonia in humans is caused by which of the following pairs of organisms:
a) Salmonella typhi ,Haemophilus
b) Salmonella typhi ,Streptococcuspneumonae
c) Streptococcus pneumonae ,Haemophilus
d) Ascaris and Trichophyton

3.The toxic substances released during the malarial infection from the ruptured RBCs is

a)Haematin b) Hemozoin c) Cry proteins d) Sporozoites

Short and long questions

1.Explain the following.

a) interferons
b) AIMS
c) Autoimmunity
2.Explain the following terms.
a) CMIS
b)active immunity
c) vaccines.
3. Write a short note on the following:
a)Allergy b) MALT c) Oncogenic viruses.

2021

MCQ

1. Widal test is used for diagnosis from.

a)Malaria b) Typhoid c) pneumonia d) tuberculosis

2. AIDS is caused by HIV. Among the followers, which one is not a mode of transmission of HIV?

a) transfusion of contaminated blood b) sharing the infected needles c) shaking hands with infected persons d)The sexual contact with infected persons.

3.Which of the following is not lymphoid tissue?

a)spleenb) tonsils c) pancreas d) Thymus.

4.ADA stands for

a)adenine deaminase b) adenosine deaminase c)adenyl deaminase d)none of these

5.Antibodies present in colostrums which protect the new born from certain diseases is of:

a) IgG type b) IgA type c) IgD type d) IgE type.

6.Many diseases can be diagnosed by observing the symptoms in the Patient . Which group of symptoms are indicative of Pneumonia?

a)Constipation ,abdominal pain,cramps,sorethroat,headache

b) Difficulty in respiration,fever,chills,cough,headache

c)Nasal congestion and discharge,cough,cramps,blood clots

d)High fever,weakness,stomach pain ,loss of appetite

7.The common cold is caused by:

a) Rhino viruses b) Streptococcus pneumonia c) Salmonella typhimurium d) Plamodiumvivax

8.ELISA test is used for diagnosis of:

a) Typhoid b) AIDS c) Cholera d) Pneumonia

9. Viral infected cells secrete a protein which is known as:

a) Interferons b) Antigens c) Antibiotics d) Renin

10. Elephantiasis is caused by:

a) Rhino viruses b) Streptococcus pneumonia c) Wuchereriabancrofti d) Plasmodium vivax

11. ELISA is based on the principle of:

a) Antigen-Antigen interaction b) Antigen-Antibody interaction c) Antibody-Antibody interaction

d) Both b and c

12.Which protein is used to treat emphysema?

a) Rennin b) Pepsin c) Alpha-1-antitrypsin d) None of these

Short and long questions(3 and 4 marks)

1.Name the pathogen of amoebiasis? Write down its symptoms.

2.What is ADA deficiency ? How it can be corrected?

3.Differentiate active and passive immunity

4.Write down three measures for prevention and control of alcohol and drug abuse among adolescents

5.How cell mediated immunity works in human in human body?

6.Explain the following

a) Allergy b) interferons

7. Write the name of causal organisms and symptoms of Malaria. 2
8. What is antibody? Draw a well labeled diagram of antibody. 3
9. Differentiate primary and secondary lymphoid organs. 2
10. Explain the following: a) Opioids b) Cannabinoids 3
11. Write the name of causal organism and symptoms of Typhoid. 2
12. Differentiate infectious and non-infectious diseases. 2
13. Discuss the mechanism by which AIDS virus cause deficiency of immune system of infected person.3
14. How cancerous cells are different from normal cells? 2
15. Write brief notes on the following:
    a) Primary lymphoid b) Drug abuse

2022

MCQ

1.A disease which can easily transmit from one person to another is called

a)Non-infectious disease b) infectious disease c) viral disease d) bacterial disease

2.A drug called heroin is obtained from

a) Rauwolfiaserpentina b) Cannabis sativa c) Cajanuscajan d) Papaver sominiferum

3.The major phagocytic cells are

a) antibody b) Antigen c) lymphocytes d)macrophages

4.Assertion:Interferons help to. Eliminate viral Infections.

Reason: Interferons released by infected cells to reach the nearby uninfected cells and make them resistant to Viral infection.

5.Rhinovirus causes:
a)common cold b) malaria c)aids d) pneumonia.

6.Coca alkaloid or cocaine is obtained from:

a) Papaver sominiferum b) Atropa belladonna c) Erythroxylum coca d) Datura

7.Which of the given Include the primary lymphoid organs.

a)thymus ,lymph nodes and spleen b) Bone marrow and Thymus. c) bone marrow,Pewarpatches,and thymus d). liver,Thymus and tonsils.

8.Assertion. Interferons are a type of antibodies produced by bodies. Cells infected by bacteria.

Reason: interferon. Interferes with viral replication at the site of injury.

9.Common symptoms of typhoid are:

a)High fever 39 degree Celsius to 40 degree Celsius and weakness b)Stomach pain and constipation. c) headache and loss of appetite d)all the above.

10.Smack is a drug obtained from the

a) latex of Somniferum b)leaves of cannabis sativa c)Flowers of daturapiñata d)Fruits of erythroxylum

11.Which of the following Is not called lymphoid organ?

a)Spleen b)Tonsils c)Thymus d)Pancreas

12.ADA is an enzyme which is. Deficient in the genetic disorder. SCID. What is the full form of ADA?

a)Adenosinedeoxyaminase b) Adenosine deaminase c) asparate deaminase d) arginine deaminase

13..Assertion: Antibody mediated. Immune response is provided by B cells.

Reason: B cells work chiefly by secreting substances called antibodies into the body fluid

Short and long questions

1. Differentiate between innate and acquired Immunity. 2
2. Write down the causative agent symptoms and preventive measures of typhoid.

3. Write down the causative agent symptoms and preventive measures of Pneumonia.3
4. Name the causative agent of ascariasis ,symptoms and preventive measures of the ascariasis. 3
5. Differentiate between primary lymphoids and secondary lymphoid organs. 2

2024

MCQ

1.Confirmatory test for typhoid is

A)ELISA b) western blotting c) widaltest d) All the above

2.Heroine and opiates are obtained from.

a)Thea b)Cannabis c) Papaver d) Theobroma

3.Fetal abnormality caused by

a)Nicotine b)Alcohol c) LSD d)Opium

4.Widal test is used for diagnosis of

a) Malaria b)Tuberculosis c)Pneumonia d)Typhoid.

5.Cannabis sativa is a source of.

a)Opiums b) LSD c) Marijuana d) Cocaine

6.Cirrhosis of liver is caused by Chronic in take of:

a) Opium b) Alcohol c) Bhang d) Tobacco Chewing

7. ELISA test used to diagnosis of:

a) Typhoid b) AIDS c) Cholera d) Pneumonia

8.Nicotine stimulate:

a)Adrenal gland b)liver c) Thyroid gland d) Thymus gland

9.Emphysema is the disease of:

a) heart b)lungs c)kidneys d) stomach

Short and long questions

1. Differentiate between Innate immunity and. Acquired immunity. 2
2.Differentiate between active immunity and passive immunity. 2
3. Name the causative agent of Malaria.Give any two symptoms of Malaria. 3

4.Differentiate between infectious and non infectious diseases. 2
5.Differentiate between primary lymphoids and secondary lymphoid organs.2

6.Name the causative agent of ascariasis ,symptoms and preventive measures of the ascariasis.3

7.Name the causative agent of Typhoid. Give any two symptoms of typhoid. 3
8.Differential between Benign and malignant tumors. 2

Chapter- Microbes in Human Welfare

2016

1.What is SCP also write its significance? 2.5
2. What are bioreactors? 2

2017

1. What is sewag treatment? In which sewage is harmful to us. 2
2. What are biofertilizers? Discuss the role of symbiotic nitrogen fixation by a bacterium? 2.5
3. How biofertilizers enrich the fertility of soil? 2
4. Explain the role of methanogen in the production of biogas?

2018

MCQ

1.The root fungus association is:
a) Coleorrhiza b) Rhizomorphs c) Mycorrhiza
d) None of these
2. N2 fixing bacteria in legume plants are
a) Azotobacter b) Frankia c) Rhizobia d) None
3. N2 fixing bacteria in nonlegume plants are
a) Frankia b) Rhizobia c) Plasmodium d) Aspergillus

Short and long questions

1. Write a short note on biofortification. 1.5
2. What is role of microbes in sewage treatment plants? 2.5
3. What is SCP also write its significance? 2.5
4. What is mycorrhiza ? Discuss its two types in detail. 2.5
5. Which plant part is used to generate disease free plants and why? 2.5
6. What is manure ? Describe its three types. 2.5
7. What are androgenic haploids? What are its uses? 2.5

2019

MCQ

1. The plant part used in tissue cuture:
a) Micropropagation b) Explant c) Callus d) Biofortification
2. Root fungal association is called:
a) Lichen b) Mycorrhiza c) Parasitism d) Amensalism

3. Mutually beneficial relationship is called :

a) Competition b) Predation c) Mimicry d) Symbiosis

Short and long questions

1. Describe the role of microbes in sewages. 2
2. Differentiate embryo and embryoid. 2
3. Describe the role of bacteria in N2 fixation.3
4. Define Mycorrhiza.Differentiateectomycorrhiza and endomycorrhiza. 3
5. Where Lactobacillus is used commercially? 1
6. Describe the role of microbes in industry. 2
7. What is apiculture ? How it is important in our life? 2
8. Describe BGA as biofertilizer. 3

2020

MCQ

1. Big holes in swiss cheese are made by a

a) Bacterium that produces gas b) Fungus that causes holes c) Bacterium producing

2. Sonalika and kalyan Sona are varities of:

a) Rice b) Wheat c) Maize d) Tobacco

3. The vitamin whose content increases following the conversion of milk into curd by lactic acid bacteria is:

a) Vit. D b) Vit.-C c) Vit.-B12 d) Vit.-K

4. Which of the following is a marine fish?

a) Catla b) Rohu c) Hilsa d) Common carp

5. Norman Borlaug who is known as father of green revolution has developed new cultivating variety of:

a) Rice b) Sugarcane c) Wheat d) All the above

6. Waste water treatment generate a large quantity of sludge,which can be treated in

a) Digestors b) Oxidation Pond c) Activated sludge d) Chemicals

Short and long questions

1. Write an explanatory note on BOD. 2
2. Write short note on Biofortification. 2
3. Give a short note on antibiotics produced by microbes. 2
4. What are single cell proteins? Explain. 2
5. Discuss briefly the role of microbes as biofertilizers. 2
6. What is apiculture? How it is important in our lives? 2

2021

MCQ

1. Root –fungal association is called:

a) Coleorrhiza b) Rhizomorphs c) Amensalism d) Mycorrhiza

2. Lactic acid bacteria convert milk into curd and improves its nutritional quality by enhancing:

a) Vit.-A b) Vit.-B12 c) Vit.-C d) Vit.-E

3. Which of the following is not a nitrogen fixing organism?

a) Lactobacillus b) Azotobacter c) Nostoc d) Anabaena

4. A bioactive molecules cyclosporine A which acts as an immunosuppressive agent in organ transplant patient is produced by:

a) Trichodermapolysporum b) Monascuspurpureus c) Clostridium butylicum d) Penicilliumnotatum

5. Which of the following organisms is used for commercial production of citric acid?

a) Asparagus b)Aspergillus c) Agaricus d) Nostoc

6. The free-living fungus Trichoderma can be used for:

a) Killing insects b) Biological control of plant diseases c) Controlling butterfly caterpillars d) Producing antibiotics

7. Which of the following is a non-symbiotic biofertilizer?

a) VAM b) Azotobacter c) Anabaena d) Rhizobium

8. Cheese and Yoghurt are products of:

a) Pasteurization b) Dehydration c) Fermentation d) Hydration

9. Which of the following microbes is employed in the production of vinegar?

a) Lactobacillus b) Acetobacter c) Azotobacter d) Rhizobium

10. Bioactive molecules statin is produced by:

a) Trichodermapolysporum b) Monascuspurpureus c) Clostridium butylicum d) Penicilliumnotatum

11. Some blue green algae are used as biofertilizer because they can:

a) Fix nitrogen b) Secrete mucilage c) Perform photosynthesis d) Grow everywhere

12. A Microbial insecticide is:

a) Bacillus polymixa b) Bacillus subtilis c) Bacillus thuringiensis d) Bacillus brevis

Short and long questions

1. What are Biofertilizers ? Give two examples. 2
2. What is the composition of Biogas? Name the microbe involved in the production of biogas. 2
3. What are the differences between primary and secondary sewage treatment? 2
4. Name two Bioactive molecules alongwith their uses which are produced by microbes. 2
5. Write a short note on biofortification. 1.5
6. What is BOD?

Chapter-Biotechnology : Principles and processes

2016

MCQ

1.PCR is required for
a) DNA synthesis b) DNa amplification c) Protein synthesis d) Amino acid synthesis
2.The PCR technique was invented by
a) Kohen b) Karry Mullis c) Sanger d) Boyer
3.The first clinical gene therapy was done for
a) AIDS b) SCID c) Cancer d) Malaria

Short and long questions(2 and 3 marks)

1.Write short note on
a) Genetic engineering b) Biopiracy
2.What are cry protein? Name the organism that produces them.
3.What are bioreactor?
4.How is general transfer in animals done? Give one example.
5.Write any three uses of general cloning
6.Name three diseases against which genetically engineered vaccines are now available.
7.What is genetic engineering? Give its three advantages.
8.What are the hazards of transgenic animals.
9.Explain briefly PCR.
10.Name any three types of recombinant proteins.
11.Write a short note on gene therapy .(2017)
12.What are cloning vector? Name one common vector used in experiments.
13.What are restrictions enzymes? Give its types .
14.What are palindromic nucleotide sequences.
15.Transgenic organisms are useful.Give two examples with their useful character .

2017

MCQ

1.Molecular scissors is
a)Restriction endonuclease b)Helicase c)Urease d)Peptidase

Short and long questions(2.5 and 3 marks)

1.What are the most common applications of PCR
.2What is transgenic bacterium explain it by using one example
3.Describe the mechanism of DNA replication
4.Write a brief account of genetically engineered insulin.
5.Name any two species of fungus which are used in production of antibiotics
6.How does restriction endonuclease work
7.Explain downstream processing
8. short note on biopatent and Biopiracy

9.What are the advantages and disadvantages of production of genetically modified crops?
9.What are molecular scissors? Give one example
10.How does foreign gene produced obtained
11.What are cry protein? Name the organism that produces them.How has man exploited the proteins to his benefit .
12.What is a cloning vehicle describe briefly the characteristics a cloning vector must possess?

2018

Short and long questions

1. How Monoclonal antibodies are produced? 2.5
2. Define Callus,Embryoid,pisciculture explants,germplasm.
3. Write short notes on a) Electroporation b) Microinjection (1.5+1.5=3)
4. What is Biopiracy? What are its impacts? 2
5. How Transgenic plants are useful to mankind? 2
6. Expand GMO. 1
7. What is PCR? Discuss it in detail. 3

2019

MCQ

1. Enzymes that cut the DNA at desired points

a) Ligases b) Restriction Endonucleases c) Polymerases d) Gyrases

2. Theft of Biological product is:

a) Biotechnology b) Quarantine c) Both a and b d) Biopiracy

3. The enzyme that can join DNA fragments are:

a)Exopeptidases b) Ligases c) Endonucleases d) Topoisomerases

Short and long questions

4. What are plasmids? What is their role in Biotechnology? 2
5. Write a short note Electroporation. 2
6. Explain PCR. 2
7. How desired DNA is isolated in recombinant DNA technology? 2
8. Define plasmid. 1
9. What are molecular scissors? 3
10. What are GMOs? Write its advantages. 3
11. Differentiate between YAC and BAC. 2
12. What are Bioreactors ? What is their utility? 2
13. Where Lactobacillus is used commercially? 1
14. What is the role of vehicle DNA? 2
15. What are advantage of genetically modified crops? 2
16. Write a short note on gene therapy? 2

17. What are cry proteins? 1

2020

MCQ

1. In Agarose gel electrophoresis DNA molecules are separated on the basis of their:

a) Size only b) Charge only c) Both a and b d) None of these

2. An antibiotic resistant gene in a vector usually helps in the selection of :

a) Competent cell b) Hybridized cell c) Transformed cells d) Non recombinant cells

3. Which of the following bacteria is not a source of restriction endonuclease enzyme?

a) E.coli b) Haemophilus influenza c) Agrobacterium tumifaciens d) Bacillus

Short and long questions

1. Discuss the role of Ca divalent ions in the preparation of competent host cell. 2
2. Write short note on Biopiracy. 2
3. What are transgenic bacteria? IIIustrate using one example. 2
4. What are cry proteins ? Name an organism that produces it. How has man exploited these proteins to his benefits ? Explain. 3.5
5. Give the advantage of GMO over the hybrid organisms. 1.5
6. Distinguish between plasmid and chromosomal DNA. 2
7. Write a short note on Palindromic nucleotide sequence. 2
8. Explain the microinjection and biolistic's gun method of introducing the alien DNA in host cells. 2
9. What is gene therapy? IIIustrateusing the example of ADA deficiency. 3
10. What are the ethical issues concerned with biotechnology? 2
11. Explain briefly what is down stream processing. 2
12. Expand GEAC. What are the main objectives of GEAC? 2
13. Discuss the role of biotechnology in molecular diagnosis. 3

2021

MCQ

1.What of following is known as molecular scissors?

a) Ligase b) Helicase c) Restriction endonuclease d) DNA –polymerase

2. Full form of GMOs is

a) Genetically mutant organisms b) Genetically modern organisms c) Genetically modified organism d) none of the above

4. Bt Cotton is not:

a) A GM plant b) Insect resistant c) A bacterial gene expressing system d) Resistance to all pesticides

Long question

5. What is PCR? Explain the steps involved in this technique. 3

2022

MCQ

1. PCR helps in
   a)DNA amplification b)Protein synthesis c)DNA synthesis d)Transcription
2. Enzymes that can join DNA fragments are
   a)DNAligages b)Endonucleases c)Helicase d)Polymerase
3. Bacillus thuringienesis is used to control
   a)Bacterial pathogens b)Fungal pathogens c)Nematotes d)Insect pest
4. The first clinical gene therapy was given in
   a)1992 A.D. b)1991A.D. c)1990 d)1999
5. In insulin polypeptide chain a and b are linked together by
   a)Ionic bond b)Covalent bond c)Disulphide bond d)Peptide bond
6. The ADA deficiency results into
   a)Digestive disorder b)Addison disease c)Immune system dysfunction d)Parkinson disease
7. GMO stands for
   a)Genetically moderate organism b)Genetically modified organism c)Both a and b d)None of these

Short and long questions(3marks)

1.What is GEAC? What rule does its play ?
2.Distinguish between the exonuclease and endonuclease
3.Define palindromic DNA and ori.
4.What are cloning vectors? What are the features that are required to facilitate cloning into a vector ?

2023
MCQ

1.Thermostable enzyme t a q polymeris used in PCR is extracted from
a)Thermosaquaticus b)Agrobacterium c)Bacillus thuringienesis d)Pseudomonas

2.Isolation of DNA from fungal cell involves the use of
a)Ligases b)Endonucleases c)Helicase d)Chitinase

3.Transgenic golden rice is enriched with high contents of
a)Vitamin –A b)Protein c)Vitamin -C d)Lysin

4.The first clinical gene therapy was given for treating
A)Chicken pox B)Diabetes mellitus C)Adenosine deaminase deficiency d)Rheumatoid arthritis

5.ELISA is based on the principle of
a)Antigenantigen introduction b)Antigen antibody interaction c)Antibody antibody interaction d)Both b and c

6.In cry proteins Christ stands for

a)Crystal b)Cryopreservation c)Crypto d)None of these

7.Restriction endonuclease binds to DNA and cut and seven double helix at specific points in their
a)Sugar phosphate backbone b)Hydrogen bond c)Glycosidic bonds d)None of the above

8.Which of the following technique is most commonly used to amplify DNA fragments?
a)Chromatography b)Gel electrophoresis c)RFLP d)PCR

9.Plants, bacteria, fungi and animals whose genes have been altered by manipulation or called
a)Genetically modified organisms b)Hybrid organisms c)Pest resistant organisms d)Insect resistant organisms

10.ADA is an enzyme which is deficient in a genetic disorder. SCID. What is the full form of ADA?
a)Adenosinedeoxyaminase b)Adenosine Deaminase c)Asparate deaminase d)Arginine deaminase

short and long questions(3marks)
1.Give a brief account of genetically engineer insulin.
2.Mention two objectives of setting of GEAC by our government .
3.Explain the steps of recombinant DNA technology.
4.Name the source of DNA polymerase used in PCR technique why it is used in PCR technique.
5.How bacteria cell can be made competent to take up the classmates in DNA recombinant technology?
6.Write a short note on that downstream processing.
7.What are the applications of biotechnology in the field of agriculture.
8.What is GEAC? What are the main objective of setting up GEAC by our government?
9.What is gel electrophoresis ? Name the most commonly used metrix in this technique.
10.What is Biolistics and gene gun method in DNA recombinant technology?
11.Write a note on the bioreactors.
12.What is Gene therapy? Explain it by citing the example of ADA deficiency.
13.What are the advantages and disadvantages of producing genetically modified crops?

2024

Short and long questions (3marks)

1. How BT cotton plant produced explain it
2. Why has the Indian government set up organisation named as GEAC?
3. Name and explain technique used in the separation and isolation of fragments used in DNA recombinant technology
4. What are cry proteins? Name the organism from where it is obtained
5. What is genetically engineered insulin? How it is obtained? Explain
6. Write a short note on downstream processing
7. Draw a well labelled diagram of bioreactor
8. What are genetically modified organism? Explain
9. Define cry gene . Name an organism which has this gene
10. Discuss the various ways to introduce alien DNA into host cells
11. What are selectable markers? How do you identify and eliminate transformants from non-transformants?
12. Define Origen of replication and biotechnology
13. Define restriction, enzymes and biopiracy
14. What are cloning sites? What are their significance?
15. What are transgenic plants? Give two examples.
16. What is Gene therapy? Give its one application.
17. Write a short note on bioreactors
18. What is the role of biotechnology in field of medicine?
19. What is microinjection? Give its significance in biotechnology?
20. Draw a well labelled diagram of simple Stirred Tank bioreactor
21. What is gene gun? Give its significance in biotechnology.

UNIT-5 Ecology and Enviornment

2016

MCQ

1.Thetotalnumberofidentifiedbiodiversityhotspotsinworldis

a)24. b)30. c)25 .d)40

2.Whichofthefollowingcountryhasthehighestbiodiversity

a)India b)Russia c)Brazil d)SouthAfrica

3.Whichofthefollowingforestisknownasthelungsoftheplanetearth

a)Tundraforest b)Taigaforest c)Amazonrainforest

d)RainforestsofnortheastIndia .

Short and long questions (2 and 3 marks questions)

1.WhatisBiologicalmagnification?Howitiscaused?

2.Defineecologicalsuccession.differentiatebetweenprimarysuccessionandsecondarysuccession.

3.Discussthecausesandeffectsofglobalwarming.whatmeasuresneedtobetakentocontrolglobalwarming .

4.Whatisnationalpark?GiveoneexampleinHimachalPradesh.

5.Writenotesoninsituconservationandexsituconservationofspecies .

6.Differentiatebetweenbiodegradableandnonbiodegradable.

7.WhatareEcologicalpyramid?Giveitsthreetypeswithexample.

8.Whatisdeforestation?Writeanyfourconsequencesofdeforestation .

9.Definecommensalismwithanexample .

10.Definemimicrywithanexample .

11.Defineparasitismwithoneexample.

12.ExpandthetermCNG.Whyisitmoreeco-friendlythandiesel.

13.Whatisextinction?Listanyfourcausesofwildlifeextinction.

14.Drawaschematiclabelleddiagramofcarboncycle .

15.Explaintheharmfuleffectsofglobalwarming.

2017

MCQ

1.Germplasmconservationatliquidnitrogentemperatureis

a)Stratification b)Cryopreservation c)Scarification

d)Noneoftheabove

2.Reddatabookdealswith

a)Endemicplants b)Plantsthatareextinct c) animalsonvergeofextinction

d)Plantsshowingphototropism

3.Thepurposeofbiologicaltreatmentofwastewateristo

a)ReduceBOD.b)IncreaseBOD c)Reducesedimentation d)Increasesedimentation

Short and long questions (2 &3 marks questions)

1.Definebioticcommunity?Giveitstypes.

2.Whatarethedifferenttypesofinteraction?Explain .

3.Whatisfoodchain?Explainitstypes .

4.Whatismeantbyozoneshield?HowdotheCFCsandozonedepletingsubstanceaffectozoneshield ?

5.Writeashortnoteonbiodiversity .

a)Hotspotofbiodiversity b)Reddatabook

6.Defineecologicalniche?Giveitstypes.

7.Writeabriefnoteoncompetitiveinteraction.

8.Definefoodweb.Giveit'scharacteristicsandexamples .

9.Writeashortnoteonecologicalsuccessiononabarerock

10.Describewhatsacredgrooveare?

11.Definethegrowthcurveofpopulationandit'stypesofgrowthcurve .

12.Whatisecologicalpyramid.describethepyramidofenergy ?

13.Writeashortnoteon

a)Biomagnification b)Eutrophication c)BOD d)Greenhouseeffect

e)Biodegradableandnonbiodegradablepollutants

14.Explaintheroleofmethanogenintheproductionofbiogas.

2018
MCQ

1.Kaziranga national Park is located in
a)Assam b)Kerala c)Himachal Pradesh d)West Bengal
2.Pyramid of energy is inverted in
a)Grassland b)Tree c)Both a and b d)None of these
3.Nitrogen, fixing bacteria in non-legume plants or
a)Frankie b)Rhizobia c)Plasmodium d)Aspergillus
4.Energy transferred from one traffic level to another is
a)100% b)5% c)10% d)50
Short and long questions(2 and 3 marks)

1.What is biomagnification?
2.What are national Parks?
3.Describe nitrogen cycle in detail
4.Define the following terms
a)Mimicry b)Hibernation c)Habitat
5.What is eutrophication?
6.What are endangered species? Also give example.
7.Describe phosphorus cycle in detail
8.What is biochemical, oxygen demand?
9.What Are hotspots of biodiversity?
10.Describe oxygen cycle in detail.

2019

MCQ

1.Cryopreservation is done at temperature
a)106°C b)80°C c)-196°C d)20°C
2.The relationship where one species is harmed other remain unaffected
a)Amensalism b)Predation c)Symbiosis d)Parasitism
3.Mutually beneficial relationship is called
a)Competition b)Predation c)Mimicry d)Symbiosis

Shorts and long questions(2 and 3 marks)

1.Give a brief account of productivity.
2.What are the factors that are responsible for extinction?
3.Explain the concept of food chain.
4.Give graphic representation and of carbon cycle.
5.Write a short note on energy flow.
6.Define ecological pyramids. Describe pyramids of number
7.Give the schematic outline of phosphorus cycle Nature
8.Describe briefly detritus food chain.
9.What are the benefits of biodiversity to mankind
10.What is ecosystem? Explain its two components.
11.Describebiomagnification and eutrophication.

2020

MCQ

1.Which of the following forest plants control the light conditions at the ground?
a)Lianas and climbers b)Herbs c)Tall trees d)Shrubs
2.During the process of ecological succession, the changes that takes place in communities are
a)Not influenced by physical environment b)Random c)Very quick d)Orderly and sequential manner
3.According to Allen’s rule, the memories from colder climates have

a)Shorter ears and shorter limbs b)Longer ears and longer limbs c)Longer ears and shorter limbs d)Shorter ears and longer limbs
4An inverted, pyramid of biomass can be found in which type of ecosystem
a)Forest b)Tundra c)Marine d)Grassland
5.Conformers are the organism whose body temperature
a)Changes we surrounding temperature b)Remains constant c)No effect
d)Decreases
6.Ductility is the rate of production of biomass is expressed in terms of
a)Kilo calorie meter square per year b)Kilo calorie meter cube year c)Both the above
d)None of the above
7.Waste water treatment, generate a large quantity of sludge, which can be treated in
a)Digesters b)Oxidation Pond c)Activated sludge d)Chemicals

Short and long questions(2 and 3 marks questions)

1.Briefly explain the four major reason for the loss of biodiversity.
2.Discuss the various adaptation of plants and animals for desert conditions
3.Write a short note on biomagnifications.
4.Give differences between grazing and detritus food chain.
5.Discuss the various adaptation of plan for water scarcity
6.Write an explanatory note on the following
a)Endemism b)Ex situ conservation
7.Discuss the different behavioural adaptation in animals
8.Explain how slash and burn agriculture can we become environment friendly?
9.What is reforestation?
10.What is soil erosion and desertification?

2021
MCQ

1.An animal which feed on dead animal is called
a)Predator b)Scavenger c)Parasite d)Prey
2.Principle of competitive exclusion was given by
a)Galton b)Allen c)Gauze d)Stephen Hales
3.Inter specific interaction in which one species is benefited and other is neither harmed not benefited is called
a)Commensalism b)Amensalism c)Competition d)Mutualism
4.Aravalli hills sacred groves are present in
a)Himachal Pradesh b)Rajasthan c)Punjab d)Meghalaya
5.Which of the following is a hotspot of biodiversity?
a)Aravalli hills b)Eastern Ghat c)Western ghat d)Bastar area
6.Which of the following is an example ex situConservation
a)Wildlife sanctuary b)seed bank c)Sacred grooves d)National parks
7.Sunken stomata occurs in

a)Hydrophytes b)Xerophytes c)Mesophytes d)None of these
8.Phenomenal in which animals undergo in active stage in winter is called
a)Hibernation b)Aestivation c)Brood parasitism d)none of these
9.The species confined to a particular region called not found elsewhere is termed as
a)Keystone b)Alien c)Rare d)Endemic
10.Which of the following is an example of in situ conservation
a)Cryopreservation b)Seed bank c)National park d)Botanical Garden
11.Revert popper hypothesis was the proposed by
a)Paul Ehrlich b)Mendel c)Norman Myers d)W.G Rosen
12.Sargujasacredgrovesarevpresentin

a)MadhyaPradesh b)Rajasthan c)Punjab d)Meghalaya

13.Xerophyticplantsinwhichthestemismodifiedintoourflatgreen.Succulentsandstructure is

a)Acacia b)Opuntia c)Hydrilla d)Casuraina

14.Animalsofthecolderareashaveshorterextremities.Itis

a)Alienlaw. b)Dollolaw. c)Bergmanlaw .d)Copelaw

15.Whichofthefollowingisnotanexampleofinsituconservation?

a)Wildlifesanctuary b)Seedbank c)Nationalpark d)Biosphererereserve

Shorts and long questions(2 and 3 marks questions)

1.Distinguish between hibernation and aestivation
2.What is a sacred groves? Give example.
3.What are hotspots of biodiversity?
4.Distinguish between the ectothermic and endothermic
5.Write a brief note on ex situ conservation strategies
6.Explain various causes of biodiversity loss.
7.Write brief note on the following
A)sacred grooves b)Cryopreservation
8.Explain the Gausesis competitive exclusion principle.
9.What adaptations are shown by plants growing in aquatic plants .
10.Distinguish between the immigration and emigration
11.Write a brief note on in situ conservation strategies
12.Why should we conserve the biodiversity? Discuss.
13.Write brief note on the following
a)ecological diversity b)Species diversity
14.Draw exponential growth curve .
15.What adaptations are shown by animals living in water scarcity condition?
16.Define population density.

2022
MCQ

1.Regulators are the animals which
a)Does not maintain their body homoeostasis b)Can maintain your body homoeostasis
c)Can regulate their heart beat d)Can regulate their circulation
2.At high altitudes and body, compensate for low oxygen availability by
a)Increasing RBC b)Decreasing binding affinity of haemoglobin c)Increasing breathing rate d)All the above
3.Mycorrhiza present and intimate mutualistic relationship between
a)Fungi and stem of higher plants b)Fungi and roots of higher plants
c)Fungi and leaves of h higher plants d)Fungi and leaflets of higher plants
4.The two components of an ecosystem of
a)Plants and animals b)Weeds treenanimals and man
c)Energy flow and mineral cycling d)Biotic and abiotic
5.10% law is related to
a)Mendelism genetics. b)No Mendelism genetics
c)Energy transferred from lower traffic level to higher traffic level
d)Energy consumption during photosynthesis in C4 plants

Short and long questions(2 and 3 marks questions)

1..Define stratification ,Trophic level ,Foodweb

2.Write a short note on productivity.

3..Describe phosphorus cycle in detail.

4.Write a short note on energy flow in an ecosystem .

5..What is the importance of light for living organisms .
6.Difference between eurythermal and stenothermal animals .
7.What do you mean by ex situ method of conservation of biodiversity?

8.With the help of example explain the concept of co extinction .
9.Explain the phenomenon of eutrophication .
10.Define climax community ,Secondary productivity ,Standing crop.
11..What are the various components of an ecosystem?
12.What are ecosystem services explain briefly.
13.Distinguish between food chain and food web.
2023
1.Genetic diversity is the measure of
a)Varieties of the species and their relatives abundance present within a region
b)Variation in the genetic information contained in the organisms
c)Diversity of the genes and community and ecosystem level

d)All the above
2.Which of the 490%, maximum number of species among global biodiversity
a)Algae b)Lichens c)Fungi d)Mosses and ferns
3.Assertion:In commensalism, one organism is benefited and other is unaffected
Reason:cattle, arrogate, bird and cattle is an example of commensalism
4.Conservation in the natural habitat is
a)In situ b)Ex situ c)Zoo d)Botanical Garden
5.Whichofthefollowingisresponsibleforbiodiversityloss

a)Habitatlossandfragmentation b)Alienspeciesinvasion

c)Coextinction d)Alltheabove

6.Assertion:ThepricklypearcactusintroducedintoAustraliainearly1920scausedhavocby spreadingrapidlyintomillionsofhectaresofRangeland

Reason:Whencertainexoticspeciesareintroducedintoageographicalarea,theybecomein vasiveandstartspreadingfastbecausetheinvadedlanddoesnothaveit'snaturalpredators.

7.TheearthsummitheldinRiodeJaneiroin1992wascalled

a)Forconservationofbiodiversityandsustainableofitsbenefits

b)Toassessthreatposedtonativespeciesbyinvasiveweedspecies

c)Forimmediatestepstodiscontinuetheuseof CFSsthatweredamagingtheozonelayer

d)Toreducecarbondioxideemissionsandglobalwarming

8.Manyfishesoffreshwatercannotliveinseawaterandviceversabecauseof

a)Nutrient b)Osmoticproblem c)Breathingproblems d)Excretionproblem

9.Natality refers to

a)Numberofindividualsleavingthehabitat b)Birthrate c)Deathrate

d)Numberofindividualsenteringahabitat

10.Parasitethatfeedontheexternalsurfaceofthehostorganismsiscalled

a)Endoparasites b)Ectoparasite c)Broodparasite d)Noneofthese

11.Verticaldistributionofdifferentspeciesoccupyingdifferentlevelsinabiotiiccommunity isknownas

a)Divergence b)Stratification c)Zonation d)Pyramid

12.Specificplaceoccupiedbyanorganisminafoodchainiscalled

a)Branchinglines b)Progressivestraightline c)Trophiclevel

d)Standingcrop

14.Theorganisationwhichpublishestheredlistofspeciesis

a)ICFRE b)IUCN c)UNEP d)WWF

15.Insitustrategiesinclude

a)Nationalpark b)Wildlifesanctuaries c)Biosphererereserves d)Sacredgroves

16.Assertion: Predationisaninterspecificinteractionwithafeedingstrategy

Reason
:Predatorsandtheirpreymaintainfairlystablepopulationthroughtimeandrarelyonepopulation becomeabundantorscarce.

17..WaterhyacinthwasintroducedinIndianwaterbodiestoreduce pollution.it isanexampleof

a)Disturbanceanddegradation b)Coextinction c)Alienspeciesinvasion

d)Overexploitation

18.Organismswhicharerestrictedtonarrowrangeoftemperaturearecalled

a)Eurythermal b)Stenothermal c)Amphithermal d)Mesothermal

19.Conformersareinactiveinadverseconditionsdueto

a)Inabilitytomove b)Inabilitytodigestproperly c)Inabilitytomaintainhomeostasis

d)Abilitytomaintainhomeostasis

20.Theinterdependentevolutionoftheflowerингplantsandpollinatinginsectstogetheriskn ownas

a)Mutualism b)Convolution c)Commensalism d)Cooperation

21.Whichofthefollowingisanexampleofmanmadeecosystem

a)Anisland b)Aquarium c)Desert d)Forest

22.Secondaryproducersare

a)Herbivores b)Carnivores c)Plants d)Noneofthese

23.Whichoneofthefollowinghasthehighestnumberofspeciesinnature

a)Angiosperms b)Fungi c)Insects d)Birds

Short and long questions (2 and 3 marks questions)

1.What is the definition of shown by plants in growing in dry conditions .
2.Name the four major causes of biodiversity losses.
3.What are sacred groves? Is that are their rule in conservation?
4.What do you mean by algal blooms ? What is its main cause?
5.What are the causes of global warming how we can reduce the effects of global warming?
6.Define productivity, ecological pyramid, food chain.
7.Write a short note on ecological succession.
8.Describe carbon cycle in detail.
9.What do you mean by decomposition? Name the important steps in the process of decomposition?

10.Whatadaptationareshownbyanimalslivingindeserts.

11.Differencebetweenregulatorsandconformers.

12.Whatisalienspeciesinvasiongiveexamples?

13.Differencebetweeninsituandexsitumethodofconservationofbiodiversity.

14.Explainthephenomenonofbiologicalmagnificationwithexample .

15.Discussthecausesandeffectsofozonedepletionwhatmeasuresneedtobetakentocontrolozonedepletion .

2024
MCQ

1.Ozone layer in upper atmosphere is destroyed by
a)CFC b)SO2 c)O2 and CO2 d)Smog
2.Prevention and control of air pollution was amended in
a)1972 b)1949. C)1981 d)1987
3.Mycorrhizal are an example of
a)Mutualism b)Fungistasis c)Ammensalism d)Antibiosis
4.Worldozonedayiscelebratedon

a)16thSeptember b)5thJune c)22ndApril d)21stApril

5.TajMahalisthreatenedbypollutionfrom

a)Chlorine b)SO2 c)Hydrogen d)Oxygen

6.MonarchbutterflyandMimicviceroybutterflyexhibittheexampleof

a)Batesianmimicry b)Mullerianmimicry c)Camouflage d)Noneofthese

7.Globalwarmingistakingplaceduetoexcessiveaccumulationof

a)CO2 b)SO2 c)NO2 d)CH4

8.Whichofthefollowingwouldappearaspioneerorganismsasbarerocks

a)Greenalgae b)Lichen c)Liverworts d)Mosses

Short and long questions (2 and 3 marks questions)

1.Difference between predators and parasite .
2.Define the bioenergetics and 10% law
3.Match the following columns
Column I. Column II
a)Allen rule I) Kangaroo rats
b) Physiological adaptation ii) Desert lizards
c) Behavioural adaptation iii) Marine fish at depth
d) Biochemical adaptation iv) Polar seal
4.Define the pioneer community,transitional community and climax community.
5.What are trophic level explain diagrammatically the pyramid of energy ?
6.What is the compost?
7.What is the Manure?
8.Differentiate between habitat and niche.
9.Describe the pyramid of number .
20.Match the following
List I. list II
a) Saprophyte I) Saprophyte association fungi and plant roots
b) Parasite ii(Decomposition of dead organic material
c) lichen iii) Living on living plant or animals
d) Mycorrhiza iv) Symbiotic association of algae and fungi.
21.Define detritus, fragmentation of detritus and leaching .
22.What is in situ conservation of biodiversity . Explain various approaches involved in in situ conservation of biodiversity?
23.Differentiate between natality and mortality
24.Draw upright pyramid of biomass.
25.Match list I and List II
List I. List II
a) Homeotherm I) Cold blooded
b) Poikilotherm ii) Warm blooded
c) Hibernation iii) Summer sleep
d) Aestivation iv) Winter sleep
26.Define Camouflage, symbiosis and Mimicry .
27.Define photosynthetic efficiency,net primary productivity and ecological efficiency