LIONS SCHOOL, MIRZAPUR
HALF YEARLY EXAMINATION, 2020-21

CLASS: - XII TIME: -3hrs.
SUB: - BIOLOGY(044) M.M.: - 70

GENERAL INSTRUCTIONS: -

1- There are a total of 27 question and five section in the question paper. All questions are compulsory.
2- Section A contain Q. No. 1 to 5. MCQ type question 1 marks each.
3- Section B contain Q. No. 6 to 12 S. Answer type question of 2 Marks each.
4- Section C contain Q. No. 13 to 21 S.A.- II questions of 3 Marks each.
5- Section D contain Q. No. 22 to 24 case based short Answer type questions of 3 Marks each.
6- Section E contain Q.No. 25 to 27 long Answer type questions of 5 Marks each.

SECTION- A

Q.1- The Variation in the off spring of a species from their parents constitute an important component of - 1

(a) Genetics (b) Heredity (c) Speciation
(d) Species Fixation.

Q.2- Ti Plasmid transfer work with 1

(a) Monocot only (b) Dicot only (c) all plants
(d) None of these

Q.3- Control of gene expression take place at the level of 1

(a) Translation (b) Transcription (c) DNA- replaction
(d) None of these

Q.4- Which of the following is not component of innate immunity- 1

(a) Antibodies (b) Interferon
(c) Complement protect (d) Phagocytes

Or

The membranous cover of the ovum at ovulation is

(a) Chorion (b) Zona radiate (c) Zonapellucidea
(d) Corona Radiate

Q.5- Which one of the following is not a Bio fertilizer 1

(a) Rhizobium (b) Nostoc (c) Mycorrhiza
(d) Aqrobacterium

Or

Silencing of a gene could be achived through the use of

(a) Short interfering RNA
(b) Antisens RNA

(c) Both

(d) None of the above

SECTION- B

Q.6- Bring out two main difference between CUT and LNG 20. 2

Q.7- The phenotypic and genotypic ratio in F_2 generation are same in certain. Kind of inheritance. Name an organism in which it occure and mention the kind of inheritance. 2

Q.8- In GIFT, gamit are transforred to the fallopian tube. Can gamit be transfer to the utterers to Achieve the same result explain.

Q.9- Give reason only- 2

(i) Cleistogamy is considered to be most effective device for self pollination.

(ii) The plant ycca and moth can not complet their life cycle wihout each other.

Q.10- How chromosome disorder differ from mandolin disorder. 2

Q.11- Name any two copper releasing IUD,S 2

(ii) Explain how do they act as effective contraceptive in human females. 2

Q.12- Why DNA can not pass thorugh the cell membrance of host cell. Explain How does rDNA get introduced into host cell to transfer the latter. 2

SECTION- C

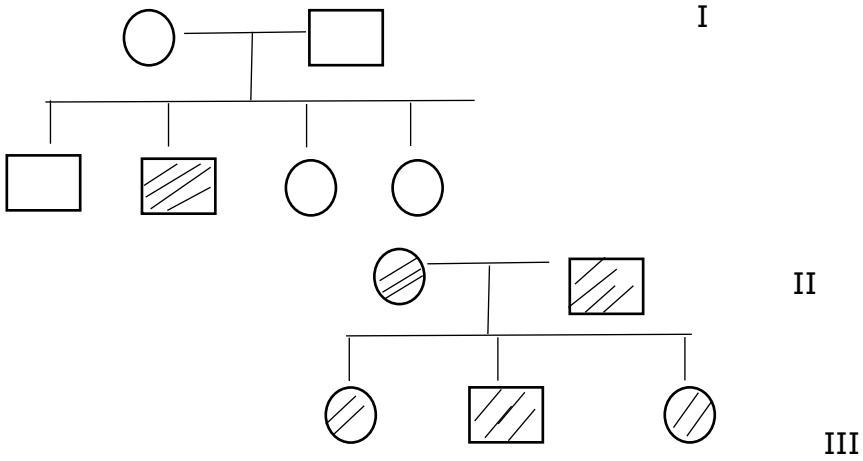
Q.13- Give term/ reason. 3

(i) Mechanism responsible for parturition.

(ii) Role of oxytocin during expulsion of baby.

(iii) Why does zonapellucide layer block the extra of additional sperm.

Q.14- Study the given pedigree chart. 3



(i) is the trait sex linked or Auto somal give the genotype of parent I and Ii generation And of there 3rd and 4th child in generation III.

Q.15- What did Meselson and stone obserb. 3

(i) They cultured E coli in medium containing NH4cl for few generation and centrifuge the content.

(ii) They transformed one such bacterium to the normal medium of NH4cl and cultured for II generation.

(b) What did they concluded from this experiment explain with help of diagram.

(c) Which is the first genetic maternal give reasons.

Or

(a) A t R N A is charged with A A meth

(i) At which site in the ribosome will the tRNA bind.

(ii) Give the anticodone for methionene.

(iii) Name the enzyme responsible for this binding.

(iv) Why does the hnRNA need to undergo charges list the changes that hnRNA undergoes.

Q.16- What will happen- 3

(i) When individual chromosome are Add to or deleted from the 2n genome

(ii) When a part of chromosome break and attach to its homologues chromosome.

(iii) When a part of chromosome breaks and attach to its nonhomologues chromosome.

Q.17- Why is proinsulin so called? How is insulin different from it. 3

Q.18- (a)Name the respective forms in which the malarial parasite gain entry in to

(i) human body (ii) body of female Anopheles

(b) Name the host where the sexual and A sexual reproduction of Malaria occur.

(c) Name the toxin responsible for the appearance of symptoms. Why do these symptoms occur periodically. 3

Q.19- Why is the introducing of genetically engineered lymphocytes in to an ADA deficiency patient not a permanent cure. Suggested a possible permanent cure.

(ii) Which gene was introduce in the First transgenic cow. 3

Q.20- How is Activated sludge produced during sewage treatment.

(ii) Explain the significant role of the genus Nucleopoly hedrovirus in an ecological sensitive area.

(iii) What are Flocs.

Q.21- A Flower of tomato plant following the process of sexual reproduction produce 240 viable seeds. 3

(a) What is minimum number of pollen grains that must have been involved in the pollination.

(b) What would have been the minimum number of ovul present in the ovary.

(c) How many mega spore mother cell were involved

(d) What is minimum number of microspore mother cells involved in the above case.

(e) How many male gamit were involved in this case.

Q.22- A person in your colony has recently been diagnosed with AIDS. People resident in the colony want him to leave the colony for the fear of spread of AIDS. 3

(a) Write your view on the situation giving reasons.

(b) List the possible preventer measure that you would suggest.

(c) Write the symptoms and causative Agents of AIDS.

SECTION – D

Q.23- Why are some molecule called bioactive molecule. 3

Name the microbe and their medicinal value where produce statin, cyclosporin A , and citric Acid.

Q.24- During his studies one genes in drosophila that were sex linked T.H Morgan found population phenotypic ratio deviated from expected 9:3:3:1 . Explain the conclusion he arrived at 3

or

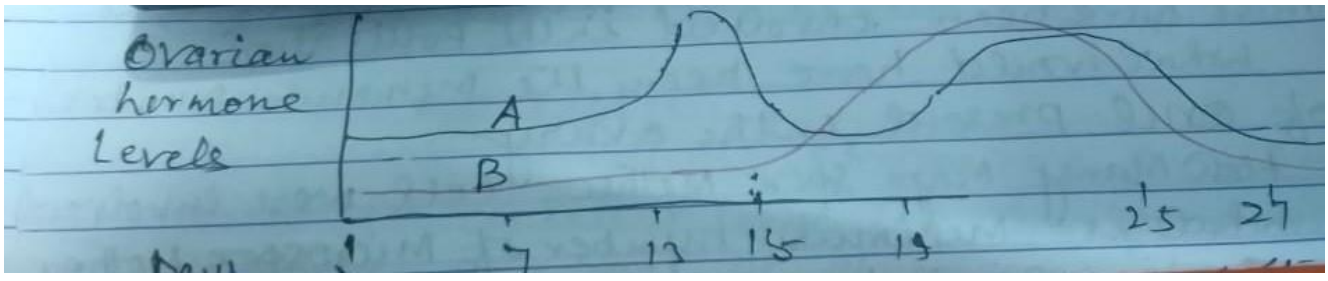
Write difference between

(a) Polygenic inheritance and pleiotrophy

(b) Sickle cell Anemia and Thalesemia

SECTION E

Q.25- The graph given below show variation in the level of ovarian Hormone During various phases of menstrual cycle- 5



(a) Identify A and B, specify the source of the hormone marked in the Diagrame.

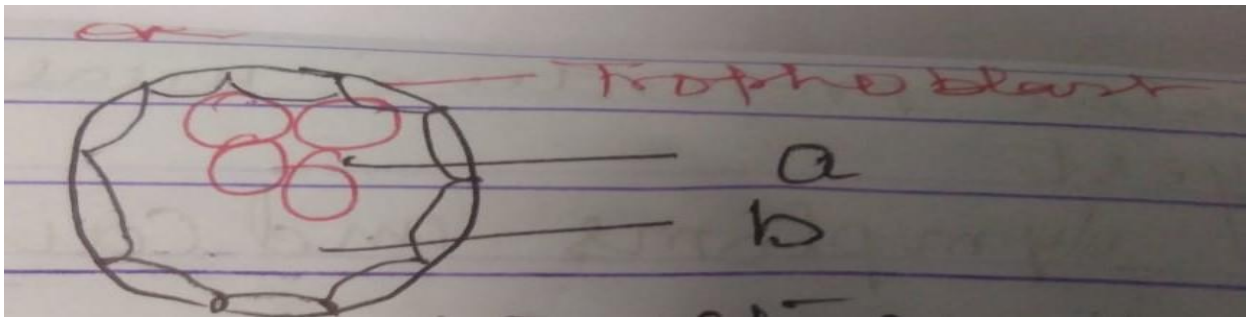
(b) Reason out why A Peaks before B

(c) Compare the Role of A and B

(d) Under which condition will the level of B continue to remain high on 28th day.

(ii) When and where do chronic villi appear in human state their function. 5

Or



(i) Name the stage of human embryo and identify a and b and mention its function.

(ii) Where are the stem cells located in this embryo.

(iii) define Primary follicle and spermiation.

Q.26- (i) Explain the two factor responsible for conferring stability to double helix structural of DNA.

(ii) How are the structural gen inactivated in Lac operon in E Cole. 5

(iii) Name the enzyme responsible for the transcription of tRNA and the AA the initiator tRNA gets linked with.

(iv) Explain the role of initiator in initiation of protein synthesis's.

Q.27- What is cloning site in cloning vector? Explain their role name any two such site in PBR322.

(ii) Explain insertional inactivation used in the selection of recombinants in biotechnology experiments.

(iii) What is elution. 5

Or

(i) Explain the Palindromic nucleotide sequence with the help of suitable example.

(ii) A women of 47 years old delivered Abnormal child with flattened Nasal bridge and mouth usually open. Name this genetic Abnormality. What causes this condition.

(iii) Why do intensely lactating mother not nearly conceive.