DELHI PUBLIC SCHOOL, DURGAPUR

QUESTION BANK & REVISION SHEET FOR BLOCK TEST I (2018-19)

CLASS-XII

SUBJECT: BIOLOGY

TOPIC : REPRODUCTION IN ORGANISMS

Q1. Flowering is unusual in bamboo and *Strobilanthus kunthiana*. Why?
Q2. State the steps involved in embryogenesis.
Q3. What is parthenogenesis?
Q4. Write the fate of calyx, corolla, ovary, ovule after fertilization.
Q5. Define syngamy.
Q6. Why is it that all papaya plants bear flowers but some bear fruits?.
Q7. How does an oviparous animal differ from viviparous one? Where is the embryonic care better and why?
Q8. Why are the offsprings of asexual reproduction called as clones?
Q9. What are the characteristics of gametes of animals who reproduce by internal fertilization?
Q10. State how gametes are produced by haploid and diploid parents?What is the ploidy level of meiocytes?

TOPIC :SEXUAL REPRODUCTION IN FLOWERING PLANTS

Q1. State the location of (a) Tapetum (b) Synergids
Q2. What are vegetative propagules? Give one example.
Q3. List the adaptive features of water pollinated plants like *Vallisneria*.
Q4.State the function of ---suspensor, tapetum.
Q5. What are the various modes of endosperm development in angiosperms?
Q6. How does embryosac become 7-celled and 8- nucleated?
Q7. Discuss any three outbreeding devices in angiosperms with examples..
Q8. Emasculation is not always necessary but bagging is necessary. Justify.
Q9. Explain why usage of Saheli is safe.How do they work?
Q10.What is pollen pistil interaction? Write its significance.
Q11. Draw a vertical section of maize grain and label its parts.
Q12. How does embryonic development takes place in a typical dicot embryo?
Q13. Why are apomictic seeds preferred over hybrid ones?

TOPIC: HUMAN REPRODUCTION

Q1. Draw a labeled diagram of a human sperm . Write the functions of each of its part.
Q2. Name the accessory glands associated with male reproductive system.State their roles too.
Q3. What is spermiogenesis?
Q4. Write the functions of placenta.
Q5. Give a flow diagram to explain the events associated with ovulation.
Q6. Explain the events associated with fertilization and implantation .
Q7.Second half of menstrual cycle is called secretory phase in human females.
Discuss the various natural methods to avoid pregnancy.
Q8. State the difference between Leydig and Sertoli cells.
Q9. What is parturition. Explain how is it brought about?
Q10. State the difference between blastocyst and morula.

TOPIC:REPRODUCTIVE HEALTH

Q1. How can we call a society as 'reproductively healthy'?
Q2. State role of Indian government to create awareness among people about building up a reproductively healthy society.

Q3. What is anniocentesis?Why is it banned?
Q4. Write the full form of RCH,MTP,IUD,ICSI.
Q5. Give suggestions to check population growth.
Q6. Mention the features to be possessed by an ideal contraceptive.
Q7. Discuss the various natural methods to avoid pregnancy.
Q8. What is the work of Progestasert,LNG-20?
Q9. Explain why usage of Saheli is safe.How do they work?
Q10. STD`s are a major threat to society. What are STD's?How can they be avoided?
Q11. MTP's to be allowed only under certain circumstances.State such possible causes.
Q12. ART is a boon to couples suffering from infertility problems.
Discuss the various techniques involved to produce a zygote by these type of couples.

TOPIC:PRINCIPLES OF INHERITANCE &VARIATION

Q1. Find out the phenotype and genotype upto F2 generation between true breeding white and red flowers of snapdragon plant.Give the principle of inheritance.
Q2. How does chromosomal disorder vary from Mendelian disorder?
Q3. Explain the cause of Down` s syndrome.
Q4.Describe the genetic basis of sickle cell anaemia.
Q5. Write any two symptoms of Turners syndrome and its cause.
Q6. If phenotypes of the offsprings have the following proportion --a) 9:3:3:1 b) 1:1:1:1, what will be the phenotype of parents? (use Cc and Dd)
Q7. What did Henking observe in insects? What is it known as now?
Q8. What proportion of individuals produced in the progeny of a cross between 2 individuals with genotype Aa Bb would be AaBb and aabb respectively.

TOPIC:MOLECULAR BASIS OF INHERITANCE

Q1. What is c DNA?
Q2. Draw the schematic representation of a dinucleotide and label the following:
(i) 5` end (ii) N-Glycosidic linkage (iii) 3`end (iv) Phosphodiester linkage
Q3. How did Meselson and Stahl prove that replication of DNA is semiconservative?
Q4.Why DNA has negative charge?
Q5. What is an operon? Who is the proposer of this concept?
Explain the steps involved in functioning of Lac operon
Q6. What is hn RNA? What changes does it undergo in a cell and where ?
Q7. Name the RNA which has a clover leaf model. Explain with a diagram.
Q8. Explain with a diagram what a transcription unit is.
Q9. What are Satellite DNA. Name their types.
Q10.Explain how Satellite DNAcan be isolated.State any two applications in forensic study.

TOPIC: EVOLUTION

Q1. Lichens are supposed to be pollution indicators.Explain.
Q2. How does industrial melanism support Darwin`s theory of natural selection?
Q3.How is the concept of de Vries different from Darwin`s concept of evolution?.
Q4. What is adaptive radiation? Is human evolution an example of adaptive radiation?
Q5. How did marsupials get confined toAustralia?
Q6 .(a) Write your observations seen in Darwin`s finches.
(b) How did Darwin explain the existence of different varities of Finches on Galapagos islands?
Q7. State Hardy- Weinberg principle and explain it with an example.
Q8. What are the factors that affect Hardy- Weinberg principle?
Q9. What do you mean by Founder`s effect? Why do we find it in nature?

TOPIC:HUMAN HEALTH AND DISEASE

Q1. What will happen if Thymus gland is removed from the body of a person?
Q2. Which type of antibody is present in tears, mother`s milk and is able to cross placenta?
Q3. How does CMI differ from Antibody mediated immunity?
Q4.Describe the genetic basis of sickle cell anaemia.
Q5. Write any two symptoms of Turners syndrome and its cause.
Q6. (i)How Plasmodium enters into the human body and at what stage?
(ii) Why does the victim shows symptoms of high fever?
Q7. (i)Write the scientific name of the two species of filarial worms causing filaiasis.
(ii) How do they affect the body of infected persons?
(iii) How does the disease spread?
Q8. Draw the structure of antibody.
Q9. Explain the types of immunity found in human beings.
Q10. What do you mean by addiction?
Q11. Discuss the types of acquired immune response.
Q12.State the source of morphine, cocaine.Write how these chemicals affect our body.
Q13.Write full form of ELISA, PMNL, CT, MRI.
Q14. What are interferons?What are their roles?

TOPIC: STRATEGIES FOR ENHANCEMENT IN FOOD PRODUCTION

Q1. What is MOET with respect to animal breeding?State its significance and describe the process.
Q2. Mention features which are important for selection of breeds for cattle rearing.
Q3. Why should inbreeding be restricted?Explain the reasons.
Q4.How outbreeding differs from outcrossing.
Q5.Write the difference between pisciculture and aquaculture.
Q6.What would you do to create crops of new genetic variety?
Q7. Name some diseases caused by three classes of microbes.
Q8.Why conventional breeding has limitations? How is it overcome by inducing mutations?
Q9.What are micronutrients? Give examples. What happens if there is deficiency of micronutrients?
Q10.Define biofortification.
Q11.How is pomato formed? Explain the cause of failure in this case.
Q12. What is SCP?
Q13.Plants generated from micropropagation are called somaclones. Explain with example.
Q14. Why is plant breeding done?
Q15.Complete the following table:

CROP	VARIETY	RESISTANT TO DISEASE
Brassica		White rust
	Himgiri	
		Bacterial blight
Chilli	Pusa sadabahar	

TOPIC:MICROBES IN HUMAN WELFARE

Q1. What is the utility of the following : *Monoscus purpureus, Trichoderma polysporum,Anabaena*?
Q2. How LAB helps in formation of curd?
Q3.Give reason- Swiss cheese has large holes.
Q4.Name a fungi and bacteria that produces acid.

Q5.What is activated sludge? How is it useful to us?
Q6. What are flocs? Where do they grow?
Q7.Who are Methanogens?Give an example. State their significance.
Q8. Draw a biogas plant and describe it.
Q9.How are mycorrhizal roots helpful for the plant?
Q10.What is Bt cotton?
Q11. Baculovirus acts acts as biocontrol agents. Mention their importance in organic farming
Q12. Give reasons:
(a) bottled juices are cleaner than home made ones.
(b) Pests are not eradicated by organic farmer.

TOPIC:BIOTECHNOLOGY:PRINCIPLES AND PROCESSES

Q1. What is the contribution of Boyer and Cohen to biotechnology?
Q2. What are the basic steps of biotechnology?
Q3. What is a plasmid?How are they made suitable to act as vectors
Q4. Draw PBR322 and label it
Q5. Explain agarose gel electrophoresis technique.
Q6. . Explain PCR with flow diagram
Q7. What is insertional inactivation?
Q8.How can we differentiate transformants from nontransformants by using selectable markers?
Q9.Explain the working of bioreactors with diagram.
Q10.Give a diagrammatic account of Recombinant DNA technology.
Q11.What are endonucleases?State their types.How are they different from Exonucleases?
Q12. What are blunt ends, palindromic sequences?
Q13. Explain how ori, selectable markers, and cloning site facilitate cloning into vector.

TOPIC: BIOTECHNOLOGY AND ITS APPLICATIONS

Q1.Who are GMOs? List the different ways how they have been useful to us.
Q2. How is insulin produced?
Q3. How can genetic engineering be used to create nematode resistant plants?
Q4. What are transgenic bacteria?.
Q5. Mention the utilities of Cry protein.Who produces it?
Q6. Explain with the example of ADA how gene therapy occurs?.
Q7. What is biopiracy?
Q8. Why Bacillus thiurengensis considered suitable for developing GM plants?
Explain how it has been used to develop GM plants?

SYLLABUS FOR BLOCK TEST I

UNIT V1--- REPRODUCTION
UNIT VII--- GENETICS & EVOLUTION
UNIT VIII --- BIOLOGY IN HUMAN WELFARE
UNIT IX --- BIOTECHNOLOGY