DELHI PUBLIC SCHOOL, DURGAPUR

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

CLASS-XI

SUBJECT: BIOLOGY

TOPIC : THE LIVING WORLD

Q1.Why binomial system of nomenclature acceptable to biologists all over the world?.
Q2. Give two similarities of Monera and Protista
Q3.Explain the term nomenclature, systematics.
Q4.Botanical gardens are living herbaria. Comment.
Q5. Give biological classification of wheat, man, housefly, mango
Q6.What is the role of zoological parks in wildlife conservation?.
Q7. What are the different ways in which specimens can be preserved?
Q8. Distinguish (i) Systematics from Taxonomy (ii) Artificial and natural system of classification
Q9. What do you understand by herbarium?Explain the various steps involved.
Q10.Show the taxonomic categories in ascending order of hierarchy.

TOPIC:BIOLOGICAL CLASSIFICATION

Q1.Which group comprises of single celled eukaryotes only?
Q2.Name the fungus which causes disease in wheat (i) Rust (ii) Smut
Q3.Which Ascomycetes has been used extensively in biochemical and genetic work?
Q4.In which class of fungi sexual reproduction does not occur?
Q5.Who is known as "Father of classification"?
Q6.Name the fungus from which LSD drug is obtained?
Q7.How are viroids different from viruses?
Q8.What are the demerits of five kingdom classification?
Q9.What do the terms "algal bloom"& "red tides" signify?
Q10.Who gave five Kingdom classification? What was the criteria used for such classification?
Q11.Discuss the salient features of viruses with the help of diagram
Q12.Distinguish between bacteria & cyanobacteria.
Q13.Give a comparative account of classes of kingdom fungi on the basis of mode of nutrition & mode of reproduction
Q14.Explain the various methods of asexual & sexual reproduction in fungi.
Q15,Expand PPLO

TOPIC:PLANT KINGDOM

Q1.Why are bryophytes called amphibians?
Q2. Give the names of different groups of Fungi
Q3.Distinguish between-- (a) gametophyte and sporophyte (b) antheridia and archegonia
(c) megasporophyll and microsporophyll (d) liverworts and mosses
Q4.Draw a labelled diagram of Nostoc
Q5.Explain briefly the following terms with examples (i) Protonema (ii) isogamy (iii) archegonium
Q6.How would you distinguish monocots and dicots?
Q7. Differentiate between--- red and brown algae, homosporous and heterosporous pteridophytes
Q8.Gymnosperms and angiosperms bear seeds, then why are they classified separately?
Q9.Draw haplo-diplontic lifecycle.
Q10.What is heterospory? Comment upon its significance. Give two examples.

TOPIC:ANIMAL KINGDOM

Q1.Which group comprises of single celled eukaryotes only?
Q2.What is pseudocoelom?
Q3.Which Ascomycetes has been used extensively in biochemical and genetic work?
Q3,Expand PPLO.
Q4.In which class of fungi sexual reproduction does not occur?
Q5. Define metamerism
Q6. . Write a short note on Euglenoids thinking of Euglena
Q7. Who are uricotelic animals?
Q8.What are the demerits of five kingdom classification?
Q9. Describe four distinguishing feature of Protozoa.
Q10. Relate the following with their Phylum : Radula, Radial symmetry, haemocoel, watervascular system, setae, pneumatic bones. Comb plates, ctenidia, mantle

TOPIC:MORPHOLOGY OF FLOWERING PLANTS

Q1.Enlist the features of a papilionaceous flower.
Q2.Which part of the plant is modified into (i) pitcher in pitcher plant
(ii) haustoria in cuscuta
Q3.What is the structural difference between tendrils of pumpkin and pea?
Q4.Differentiate between : (i) racemose and cymose inflorescence
(ii) phyllode and phylloclade
Q5.Potato is a stem and sweet potato is a root. Justify the statement.
Q6.Draw a maize seed and label its parts.
Q7.Describe in brief the various kinds of placentation found in flowering plants.
Q8.Which is the edible part in (i) cashewnut, (ii) mango,(iii) Apple ,(iv) grape , (v) Banana
Q9.What is aestivation?Describe the different types found in petals.
Q10.What does this floral formula indicate---$K_5\ C_{(5)}A_5G_{(2)}$?
Q11. Enumerate te distinguishing features of Poaceae or Liliaceae.

TOPIC:ANATOMY OF FLOWERING PLANTS

Q1.Briefly describe the anatomy of primary dicot root.
Q2.Draw the following diagrams: (i)elements of Xylem
(ii) T.S. of dicot root
Q3.What are companion cells?Where are they located in flowering plants state their function.
Q4.T.s of a trunk shows rimg like structures. What are thry? How are they formed?
Q5.Howwill you distinguish—vascular bundle of sunflower and maize stem?
Q6.Write the functions of Periderm , parenchyma.
Q7.Mention any four differences between tracheids and vessels.
Q8.What are stem hairs? How are they different from root hairs?
Q9.What do you mean by---- open &closed type , exarch & endarch nature of vascular bundles?
Q10.What are Medullary Rays? State their function.

TOPIC: STRUCTURAL ORGANISATION IN ANIMALS

Q1.Describe the mouth parts of cockroach.
Q2. Explain the following in cockroach-- (i) antenna (ii) Gonapophyses (iii)Palpiger
Q3.How can you distinguish male from a female cockroach externally?
Q4.Name and draw the appendages associated with the head of a cockroach.
Q5.Describe the external characteristics of cockroach . State the significance of exoskeleton for this animal.
Q6.Define: Nymph,sexual dimorphism.
Q7.Briefly discuss the alimentary canal of cockroach..
Q8.Describe the composition and functions of blood.
Q9.Give an account of different type of neurons.

Q10.What is thevdifference between lynph and blood? Does lymph help in maintaining the volume of blood , how?
Q11.Where is yellow bone marrow present? What is its fate in anaemia?
Q12.How Eosinophils destroy parasitic forms?

TOPIC: CELL:UNIT OF LIFE

Q1.Define totipotency
Q2.Which cell organelle functions as "seggregation apparatus?
Q3.What is mycoplasma?
Q4.What do elaioplasts and aleuroplasts store?
Q5.Eukaryotic ribosome are 80S. What does 'S' stand for?
Q6.Give two examples of gram positive bacteria
Q7.Differentiate between :
(i)gram positive and gram negative bacteria
(ii) SER & RER
Q8.Explain the functions of centrosome,cell wall.
Q9.Both lysosomes & vacuoles are endomembrane structures yet they differ in terms of their functions" comment
Q10. What is mesosome in a prokaryotic cell? Mention its function.
Q11.Give the specific terms for the following
(a)Cluster of ribosome's found in cytoplasm
(b)Extensive in folding to the inner membrane of mitochondria.
(c) Stacks of closely packed thylakoids
(d)Stalked particles on the inner membrane of mitochondria.
Q12.Multicellular organisms have better survival than their cellular counterpart" why
Q13.Mention three similarities & three differences between mitochondria & chloroplasts
Q14.What are kinetochores? State its function
Q15.Cell is the basic unit of life. Explain
Q16.Draw six different types of cells
Q17.Explain different types of plastids ,pigments and their functions
Q18.Explain Cell theory.
Q19. What is the significance of plasma membrane Draw fluid mosaic model of cell membrane

TOPIC:BIOMOLECULES

Q1.Enlist the sources, nature, monosaccharide unit and function of glycogen, starch, cellulose.
Q2.Name (i) two contractile proteins
(ii) chemical that cements animal cells
(iii)difference between RNA and DNA in their Nitrogenous bases
Q3.What are phospholipids?Why do they produce bilayer in contact with water?
Q4.Athough all proteins are made of amino acids, explain how your proteins are different from those of a cow?
Q5.Howwill you distinguish—isoenzyme and coenzyme?
Q6.Define: Activation energy, noncompetitive inhibition,Isoenzyme,Active site, steroids,wax.
Q7.Briefly discuss the structure of DNA..
Q8.What are secondary metabolites? Give any three important secondary metabolism and state their role in plant life.
Q9.What is competitive inhibition? How is it different from allosteric inhibition?
Q10.What is an enzyme? What does it do in terms of energy requirement in a reaction?
Q11. How does substrate concentration affect velocity of enzyme action?

TOPIC: CELL CYCLE & CELL DIVISION

Q1 What is Go phase.
Q2. Define cell cycle

Q3. What is interkinesis?
Q4.Name the cell division concerned with cancer
Q5. What is the significance of meiosis?
Q6 Differentiate (i) Cytokinesis in plant and animal cells
(ii) chromatin and chromatid
(iii) animal cell mitosis & plant cell mitosis
(iv) metaphase of mitosis & metaphase I of meiosis
Q7. What are the main features of Prophase and Metaphase
Q8. Write three processes which take place in interphase.
Q9. What are homologous chromosomes?
What happens to homologous chromosomesduring meiosis ?
Q10.Write about the various phases of meiosis II division

TOPIC: TRANSPORT IN PLANTS

Q1. How root/shoot ratio affects transpiration?.
Q2. Write a note on imbibition?
Q3.What is water potential ? Why is it negative in value?
Q4. What is the difference between apoplast and symplast mode of water movement?
Q5. Show the movement of water in a leaf.
Q6.What is dieback? Name the element which results in this malformation in its deficiency.
Q7.Define hydathodes, guttation, transpiration.
Q8.What is ascent of sap? Explain cohesion tension for it.
Q9.How do Potassium ions regulate the opening and closing of stomata?
Q10. Differentiate osmosis and diffusion.
Q11. Explain the mechanism of translocation in tree.
Q12. List any four ways in which turgidity serves a useful purpose in plants.

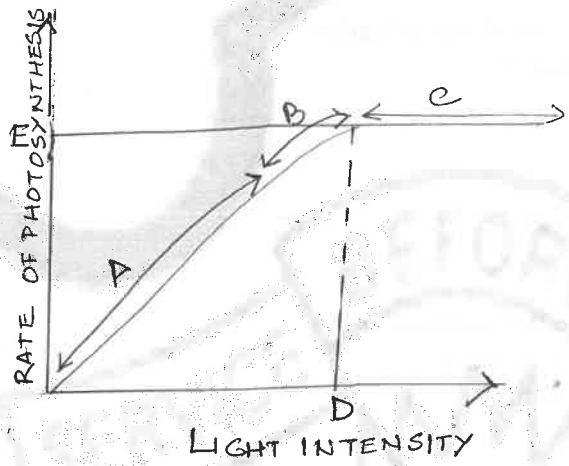
TOPIC: MINERAL NUTRITION

Q1.Differentiate between macro and micro nutrients.
Q2.What is hydroponics ? Give one application of this technique.
Q3.Why do farmers use leguminous crops to provide Nitrogen to soil? Explain.
Q4.Name the respective mineral mineral nutrient element that (i) forms core constituent of ring structure of chlorophyll (ii) activates carboxylases (iii) forms component of nitrogenase,(iv) synthesizes middle lamella of plant cells.
Q5.What are the indications for mineral deficiency in plants?
Q6.What is dieback? Name the element which results in this malformation in its deficiency.
Q7.What are the various steps involved in fixation of Nitrogen in plants?
Q8. If the initial weight of potted plant is 500g and now it weighs 5kg, would you expect the soil in the pot to change weight? Explain.
Q9. Explain role of Calcium in the life of a plant
Q10. Write two important functions of Potassium and deficiency symptom in plants .

TOPIC:PHOTOSYNTHESIS IN HIGHER PLANTS

Q1.Expand NADP.
Q2.Name one plant that carries out photosynthesis at night?
Q3.Name the cell – organelles involved in photorespiration.
Q4.Name two photosynthetic pigments belonging to Carotenoids
Q5.How many molecules of ATP are required for synthesis of one molecule of glucose in C3 and C4 Pathways ?
Q6.Name two plants that can catty out photosynthesis at night.
Q7.There is no oxygen evolution in bacterial photosynthesis Explain.
Q8.What is the advantage of having more than one pigment molecule in a photo centre?

Q9.Why are C4 plant preferred in the tropical region?
Q10..Write the difference between photo system – I and Photo system – II
Q11. The figure shows the effect of light on the rate of photosynthesis
Based on the graph,answer the following questions:
(i) At which point(s) A, B or C in the curve, light is a limiting factor?
(ii) What could he the limiting f in region A?
(iii) What do region C and D represent on the curve?



Q12.(a) suggest some habitats or natural circumstances in which
(i) Light intensity
(ii) CO2 concentration
(iii) temperature might be limiting factors in photosynthesis.
(b) In C4 plants which type of chloroplast is specialized for light reactions and which for dark reactions?
(c) Why is it an advantage that bundle sheath chloroplast lack grana?
Q13.Explain briefly the chemisomotic hypothesis
Q14.Explain the process of bio-synthetic phase of photosynthesis occurring in chloroplast

TOPIC: RESPIRATION IN PLANTS

Q1.Define fermentation and aerobic respiration
Q2..How many carbon atoms are present in the molecule of each of :
(i)Glucose and (ii) Pyruvate?
Q3..Mention the conditions under which
(i) RQ is 1 (ii) R.Q is less than 1
Q4.How many ATP molecule produced from
(a) molecule of glucose on in complete oxidation in eukaryotes.
(b) the oxidation of one molecule of FADH2?
Q5.What is oxidative decarboxylation?
What happens to pyruvate immediately after this reaction?
Q6.What is the function ofPhosphofructokinase in glycolysis?
Q7.Mention two steps of glycolysis in which ATP is utilized
Q8.What is compensation point?
Q9.Describe the mechanism of Respiration
Q10.Write the significance of citric acid cycle
Q11.What is the significance of stepwise release of energy in respiration?
Q12.What are the various steps involved in glycolysis?
Q13.Enumerate the various steps involved in Glycolysis
Q14.Describe the process and role of citric acid cycle in living organisms.
Q15.Explain ETS

TOPIC:PLANT GROWTH & DEVELOPMENT

Q1. Define photoperiodism..How can we classify angiosperms on the basis of photoperiodism?
Q2. How do we measure growth in plants?
Q3. How does development takes place in plant cells? Draw a flow diagram to show the sequence .
Q4. What are the conditions necessary for growth?
Q5. State three differences between photoperiodism and vernalisation.
Q6.What does sigmoid curve in a population indicate?
Q7. What would be expected to happen if :
(a) GA3 is applied to rice seedling.
(b) a rotten fruit get mixed with unripe fruits.
(c) you forget to add cytokinin to the culture medium
Q8. 'The growth is measurable' Comment.
Q9. Write the principal characteristics of PGR's.
Q10. What is apical dominance name the hormone that controls it.
Q11. What would happen to tissue culture of parenchyma if
a)Auxin and cytokinin were present in equal quantities.
b) More cytokinin than auxin was present.
c) More auxin than cytokinin was
Q12. What is bolting? Which hormone is responsible for it?
Q13. What is meant by abscission ? Name the phytohormone involved
Q14. Name any two synthetic auxins. How are they used in agriculture?
Q15. Explain the role played by phytohormone in seed germination.
Q16. (a).Would a defoliated plant respond to photoperiodic cycle? Why?
(b)Mention the names of two such substances that cause seed dormancy?

SYLLABUS FOR BLOCK TEST I

UNIT 1--- DIVERSITY IN THE LIVING WORLD
UNIT II--- STRUCTURAL ORGANISATION IN PLANTS AND ANIMALS
UNIT III --- CELL STRUCTURE AND FUNCTIONS
UNIT IV --- PLANT PHYSIOLOGY