

JADAVPUR UNIVERSITY

Ref no: EX/PHARM/T/112/2017(S)

B.PHARMACY 1ST YEAR: Supplementary Exam 2017 (NEW)
(1st Semester)

Pharmaceutical Biology- (NEW)

Time: 3 hours

Full Marks: 100

Group code: Pharm/T/112

Answer any ten of the following questions: (10 X 10 = 100)

1. Why Mendel choose pea plant for his experiment. State the Mendel's laws. What is the difference between back cross and test cross. What are the significance or importance of those two crosses. $3+3+2+2 = 10$
 2. Describe Allopatric, Sympatric, Parapatric mode of Speciation. What are the Darwin's theories on evolution? How it differs from Lamarck's theory? $5+3+2 = 10$
 3. What are the components and importance of Central nervous system and peripheral nervous system? What is synapse? Describe the different characteristics features of a typical neurone. $4+2+4 = 10$
 4. What is concurrent and countercurrent gas exchange? What is alveoli? How the circulatory and respiratory system interconnected? Why diffusion of oxygen from lungs to blood is a very fast process? How cystic fibrosis occur? $(2+1+3+2+2)$
 5. Virus has the property of both living and non living – state the characteristic that viruses do possess in support of the statement. What is bacteriophage? Name two virus and two bacteria which is pathogenic for humans and state the disease caused by them. $4 + 2 + 4 = 10$
 6. State the pathogenic condition that arises due to *Entamoeba histolytica* infection. What are the mode of transmission of this disease. State the possible preventive measures that can be undertaken to combat against this pathogen. What is the difference between fertilized and unfertilized egg of *Ascaris lumbricoides*? $3 + 2 + 3 + 2 = 10$
 7. Describe in details the life cycle stage of plasmodium parasite. What is the difference between early and late trophozoite stage of plasmodium parasite. $7 + 3 = 10$
 8. What is polyploidy? How does polyploidy do happen? Give example of two common types of chromosomal aberration along with the example. State the biological importance of both DNA and RNA. $2+2+3+3 = 10$
 9. Describe how oxygenated and deoxygenated blood flows through the circulatory system and get purified in heart. Where do bicuspid and tricuspid valve located and what are their functions? How the blood pressure of an individual is maintained by heart? $5 + 3 + 2 = 10$
 10. What are the differences between aerobic and anaerobic mode of respiration? Give a short account on the gastrointestinal system. State few diseases caused due to malfunctioning of the gastrointestinal system. $2 + 5 + 3 = 10$
 11. Explain how a group of virus in lytic cycle can cause disease by expanding their population. How gram staining of bacteria help us to identify the definite group. *Clostridium sp* is a obligative anaerobe bacteria – what do you mean by this statement and how it differs from facultative anaerobe bacteria? Write about the importance of bacteria. $(3+2+2+3)$
 12. Write short notes on: Natural Selection, Urey-Miller Experiment on Evolution & primeval soup, Blood Vessel types, host parasite interaction. $2.5 \times 4 = 10$
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