

Time: 2:40 Hours

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Marks: 68 DY.COM

Note: Section I is compulsory. Attempt any THREE (3) questions from Section II.

SECTION - I

12-1-23

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(2 x 8 = 16)

2. Write short answers to any EIGHT questions.

- For what purpose, leaves have large surface area? ایف جی اسٹڈی کام
- Why dehydration is the major problem for terrestrial animals? FGSTUDY.COM FGSTUDY.COM
- How can you avoid making of kidney stones? ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- Which tissues arise from vascular cambium?
- Differentiate between hyaline and elastic cartilage. IDY.COM FGSTUDY.COM FGSTUDY.COM
- Define callus and describe its importance. ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- In which way sertoli cells support reproduction?
- Why testosterone is important for reproduction? COM FGSTUDY.COM FGSTUDY.COM
- Differentiate between limnetic and profundal zone. ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- Name four major ecosystems in Pakistan.
- What is ozone? Give its importance. FGSTUDY.COM FGSTUDY.COM FGSTUDY.COM
- Define soil and give its basic constituents. ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام

(2 x 8 = 16)

3. Write short answers to any EIGHT questions.

- Define diurnal rhythms. How they are different from circannual rhythms? M FGSTUDY.COM
- Compare sympathetic with parasympathetic nervous system. ایف جی اسٹڈی ڈاٹ کام
- How etiolation differs from chlorosis? FGSTUDY.COM
- Workout all possible types of gametes from the individual having genotype "AaBbCc". FGSTUDY.COM
- What do you know about the dominance relations among multiple alleles of "ABO" blood group system?
- What are the limitations of Mendelian law of independent assortment? COM FGSTUDY.COM
- Describe the term "Gene Pharming". ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- Why biotechnology is important for humans?
- How to get the gene of interest? COM FGSTUDY.COM FGSTUDY.COM FGSTUDY.COM
- Differentiate between Autecology and Synecology. ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- Define mutualism. Give example.
- What do you know about the biotic components of an ecosystem? FGSTUDY.COM FGSTUDY.COM

(2 x 6 = 12)

4. Write short answers to any SIX questions.

- Differentiate between morulla and blastula.
- Define regeneration, also write down two examples. Y.COM FGSTUDY.COM FGSTUDY.COM
- What is point mutation? Give one example. ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- Define phosphodiester bond, also draw it.
- What are chromosomes? Also write down number in man and mouse. COM FGSTUDY.COM
- What is mitotic apparatus? Write down its function.
- Compare kinetochore microtubule with polar microtubule. ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام
- What are hydrothermal vent? How did they support life?
- Define homologous organ, give one example. TUDY.COM FGSTUDY.COM FGSTUDY.COM

SECTION - II

ایف جی اسٹڈی

ایف جی اسٹڈی ڈاٹ کام

- (a) Describe the adaptation in plants to low and high temperature. (4)
- (b) Describe the stages of karyokinesis of mitotic cell division. FGSTUDY.COM FGSTUDY.COM (4)
- (a) Write down different types of plant movements due to external causes and also describe their importance. (4)
- (b) Define succession. Write down different stages of xerosere in detail. (4)
- (a) Why is anterior lobe of pituitary gland referred as Master Gland? Explain how does anterior lobe control thyroids, adrenals and gonads? (4)
- (b) Write down a note on endangered species. How they can be protected? ایف جی اسٹڈی ڈاٹ کام (4)
- (a) Explain the male reproductive system in human. (4)
- (b) Describe the mechanism of incomplete dominance with an example. IDY.COM FGSTUDY.COM (4)
- (a) Define meristem. Discuss its various types. (4)
- (b) What is polymerase chain reaction (PCR)? How it is carried out to produce multiple copies of DNA segment? ایف جی اسٹڈی ڈاٹ کام (4)