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**SARDAR PATEL UNIVERSITY**  
**EXAMINATION APRIL, 2015**  
**IGBT-I<sup>st</sup> Semester (ATKT)**  
**PS01CIGB05-Plant Sciences**  
**Wednesday, 29<sup>th</sup> APRIL- 2015**

Time: 10:30 a.m. to 1:30 p.m.

Total Marks: 70

- Q.1 Fill in the blanks by choosing appropriate option. (08)
- (a) Botanical name of Akado -----  
 (i) *Ocimum sanctum* (ii) *Adhatoda Vasica*  
 (iii) *Datura metel* (iv) *Calotropis procera*
- (b) In *Cycas* plant microsporangia, arranged in definite groups, known as-----  
 (i) Sorus (ii) Scri  
 (iii) Microsporangia (iv) All of the above
- (c) Conduction of water occurs through-----  
 (i) Parenchyma (ii) Phloem  
 (iii) Sclerenchyma (iv) Xylem
- (d) Dividing tissue present in between Xylem and Phloem of stem in plant are----  
 (i) Secondary cambium (ii) Apical meristem  
 (iii) Intercalary meristem (iv) Vascular cambium
- (e) Fruit is ripened-----  
 (i) Ovary (ii) Stamen  
 (iii) Anther (iv) Ovule
- (f) When pollen tube enters through the funiculus or integument, it is called as---  
 (i) Porogmy (ii) Mesogamy  
 (iii) Chalazogamy (iv) Isogamy
- (g) Which of the following is test cross? -----  
 (i) Tt X Tt (ii) TT X TT  
 (iii) TT X tt (iv) Tt X tt
- (h) Mendel chose Pea plant because-----  
 (i) They are cheap and easily available (ii) They are of high economic value  
 (iii) They have contrasting characters (iv) All of the above
- Q.2 Answer the following in short.(Any seven) 14
- (a) Sketch and label *Cycas* Female cone.  
 (b) Write medicinal uses of *Ocimum sanctum*.  
 (c) Distinguish between: Monocot and Dicot .  
 (d) Differentiate between Collenchyma and Sclerenchyma tissue.  
 (e) Differentiate between Corm and Bulb.  
 (f) What are the characteristic of Wind pollinated plants.  
 (g) Explain seven characters of Pea plant studied by Mendel.  
 (h) Define epistatic gene and hypostatic gene  
 (i) Why is Mendel called as the "Father of Genetics".

[P.T.O.]

- Q.3 (a) Write the floral morphology and economic importance of the family Malvaceae. (06)  
 (b) Write outline classification of Bentham and Hooker and write its merit and demerit. (06)
- OR
- Q.3 (b) (i) Explain Internal structure of Cycas leaflet (03)  
 (ii) Write botanical source, name and uses of Neem. (03)
- Q.4 (a) What is meant by secondary growth? Explain secondary growth in sunflower stem. (06)  
 (b) Define complex tissue. Name the various kinds of complex tissues and explain one in detail. (06)
- OR
- Q.4 (b) (i) Define Stele. Explain different types of stele. (03)  
 (ii) What is anomalous secondary growth? Sketch and label secondary growth in Dracaena. (03)
- Q.5 (a) What is double fertilization? Write its Significance. (06)  
 (b) Give an account of development of endosperm in plants. (06)
- OR
- Q.5 (b) (i) What do you understand by self pollination and cross pollination? What is the advantage of cross pollination over self pollination. (03)  
 (ii) Define grafting. Explain any three grafting technique with diagram. (03)
- Q.6 (a) State law of Inheritance .Define Incomplete dominance and explain it with suitable example. (06)  
 (b) Explain Recessive epistasis with suitable example. (06)
- OR
- Q.6 (b) Write note on:(i) Test cross (ii) Back cross (06)

*Best of Luck*