Reproductive Biology of Angiosperms

Discipline Specific Core Course 14

NEP-UGCF Semester V, Part III
Guidelines for Practical Examination

Time: 5 hours **Maximum marks: 80**

1. Calculate pollen germination percentage in two different media using the sitting/hanging drop method. **6 marks**

   Preparation:2 marks
   Observations:2 marks
   Result and discussion: marks

2. Dissection of a young embryo with suspensor/endosperm with haustorium. **4 marks**

   Preparation: 3 marks
   Labelled Diagram: 1 mark

3. Comment on the following Photomicrographs *(Only transmission electron micrographs, photomicrographs to be shown. No outline diagram to be shown as spot)*

   3 x5 = 15 marks

   (Identification: 0.5 marks, Labelled diagram: 0.5 marks, comments: 2 marks)

   a. MGU / Ultrastructure of pollen wall
   b. Monosporic / Bisporic / tetrasporic embryo sac development
   c. Ultrastructure of egg apparatus / egg cell / synergid / central cell / antipodal / suspensor
   d. In-vitro pollination / intra-ovarian pollination
   e. TTC test / FDA test for pollen viability

4. Comment on the following spots (preferably permanent slides/ photomicrographs/ preparations/ specimens to be shown as spots). **2x5 = 10 marks**

   (Identification: 0.5 marks, Labelled diagram: 0.5 marks, comments: 1 mark)

   a. Ovule type (including tenuinucellate/ crassinucellate) / Endothelium / obturator / hypostase
   b. T.S. of young anther at MMC/tetrad stage / with glandular/amoeboid tapetum / mature anther / dehisced anther (preferably slides, to be procured by colleges)
   c. Pollen grains / polyads / massulae/ pollinia/ pseudomonads
   d. Pollen dispersal mechanisms (nocturnal pollination/Diurnal Pollination)
   e. Seed dispersal mechanisms (including aril, elaiosomes, caruncle)

5. Project (based on the scope of reproductive biology) **5 marks**
6. Viva-voce **20 marks**
7. Internal assessment **20 marks**
   a. Laboratory record:**10** marks
   b. Continuous evaluation / practical test: **10** marks