Pbgn.3104

Breeding of Crops (2+1)

Marks: 50
Time: 2 hours

I **Fill in the blanks** (10x1=10)

1 The two cultivated species of rice are ---------------- and ----------------------.
2 Dwarfing gene in wheat is ----------------------.
3 ------------------------- is the father of hybrid rice.
4 Emmer wheat cultivated in south India is botanically called as --------------------.
5 ICRISAT is located in -------------------------.

State True or False

6 Centre of origin of crop plants suggested by Vavilov did not cover Australia.
7 In bajra, protandry is responsible for cross pollination.
8 Top cross is a cross between two open pollinated varieties.
9 Copy right gives protection for 15 years.
10 In back cross breeding for disease resistance, recipient parent is used as recurrent parent.

II **Write Short notes on ANY FIVE of the following** (5x2=10)

1 What is two line breeding?
2 What is unpredictable legume? Why is it so called?
3 Explain any three lint quality parameters of cotton.
4 Brief 'Hardy – Weinberg law'.
5 How red gram differs from cultivated *Vigna* group of plants in terms of flowering habit, duration and mode of pollination?
6 Mention any three cucurbit vegetables with their botanical names and mode of pollination.
7 Name any three popular varieties of pepper along with their special characters.

III **Answer ANY FIVE of the following** (5x4=20)

1 Discuss the breeding methods of tomato.
2 What is distant hybridization? How is it useful in crop improvement? Give two examples.
3 Discuss the breeding methods of papaya.
4 Write the classification of cowpea. What are the desirable qualities of vegetable cowpea?
5 Discuss the current status of hybrid rice in India.
6 Explain the activities of NBPGR.
7 Discuss the Farmers' rights envisaged in PPV & FR Act, 2001.

IV **Write an essay on ANY ONE of the following** (1x10=10)

1 What is heterosis breeding? What are the theories explaining heterosis? How is heterosis exploited in maize and tomato?
2 Discuss the breeding objectives and breeding methods of any four major flower crops.

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