

**M.Sc. Semester-I Examination, 2022**  
**(AGRICULTURE) IN GENETICS AND PLANT BREEDING**  
**PAPER: GPB 501 (PRACTICAL)**  
**(PRINCIPLES OF GENETICS)**

Full Marks: 30

Time: 3 Hours

Answer any **TWO** questions from the following:

10 X 2 = 20

1. A. The following are some of Mendel's results, with the hypotheses to which they are fitted. Test each for goodness of fit and indicate whether each is significantly different from the hypothesis.

Sl. No.	Cross	Results	Hypothesis
1	Round × wrinkled seed [F <sub>2</sub> ]	5474 : 1850	3:1
2	Violet × white flower [F <sub>2</sub> ]	705 : 224	3:1
3	Green x Yellow Pod [F <sub>2</sub> ]	428 : 152	3:1
4	Round Yellow × Wrinkled Green [F <sub>1</sub> ]	31 : 26 : 27 : 26	1:1:1:1

[Tabulated chi-square value at 1 and 3 degree of freedom under 0.05 are 3.84 and 7.815] 10

- B. Demonstrate the DNA extraction procedure. How do you determine the purity of DNA? Write down the principles of Polymerase chain reaction. 5+5
2. Laboratory note book. 5
3. Viva-voce. 5



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