Total No. of Questions: 22

Enrollment No : _____

MEDICAPS UNIVERSITY

Faculty of Agriculture

End Semester Examination May 2025

AG3CO48 Crop Improvement -II (Rabi Crops)

Programme	:	B. Sc. (Hons.)	**Branch/Specialisation**	:	AG
Duration	:	3 hours	**Maximum Marks**	:	50

Note: *All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.*

Section 1 (Answer all question(s))

Q1. N. I. Vavilov for the first time given concept of : **Marks 1 CO 1 BL 1**

Rubric	Marks
Centre of Origin	1

- ○ Mutation
- ◉ Centre of Origin
- ○ Genotype
- ○ Gene

Q2. The centre of origin of Wheat is- **1 1 1**

Rubric	Marks
South west asia	1

- ◉ South West Asia
- ○ South East Asia
- ○ India
- ○ China

Q3. Quantitative traits are governed by- **1 2 2**

Rubric	Marks
Many genes	1

- ○ Few genes
- ◉ Many genes
- ○ Single gene
- ○ All of the above

Q4. Scientific name of Bread Wheat is- **1 2 1**

Rubric	Marks
Triticum aestivum	1

- ◉ *Triticum aestivum*
- ○ *Triticum durum*
- ○ *Triticum monococum*
- ○ *Triticum speltoides*

Q5. Gene for gene hypothesis was given by- **1 3 1**

Rubric	Marks
Flor	1

- ○ Mendel
- ◉ Flor
- ○ Vanderplank
- ○ Bateson

Q6. Progeny of breeder seed is- 1 3 2

Rubric	Marks
Foundation seed	1

- ○ Certified seed
- ○ Registered seed
- ◉ Foundation seed
- ○ Nucleus seed

Q7. A line is a- 1 4 2

Rubric	Marks
Male sterile	1

- ○ Inbred line
- ○ Male fertile
- ◉ Male sterile
- ○ Hybrid

Q8. R line is a- 1 4 2

Rubric	Marks
Restorer	1

- ○ Hybrid
- ◉ Restorer
- ○ Male sterile
- ○ Composite

Q9. Ideotype is concerned with- 1 5 2

Rubric	Marks
Plant geometry	1

- ◉ Plant geometry
- ○ Hybrid
- ○ Plant height
- ○ All of these

Q10. The ideotype concept was given by- 1 5 1

Rubric	Marks
Donald	1

- ○ Griffith
- ○ Vanderplank
- ◉ Donald
- ○ Mendel

Section 2 (Answer all question(s))

Marks CO BL

Q11. Write distribution and wild relatives of Wheat. 2 1 1

Rubric	Marks
Distribution of wheat	1
Wild relatives of Wheat	1

Q12. (a) Describe the main eight centres of origin along with examples. **6 1 2**

Rubric	Marks
Main eight centres of origin	4
examples	2

(OR)

(b) Write the center of origin, distribution and wild relatives of pulses namely chick pea and field pea.

Rubric	Marks
Center of origin of 3 pulses	3
Distribution	1.5
Wild relatives	1.5

Section 3 (Answer any 2 question(s))

Marks CO BL

Q13. Write a detailed note on plant genetic resources. **4 2 2**

Rubric	Marks
Definition	1
Steps used in Plant genetic resources	3

Q14. Explain genetics of qualitative and quantitative traits in brief. **4 2 2**

Rubric	Marks
Qualitative traits	2
Quantitative traits	2

Q15. Describe different methods of conservation of plant genetic resources. **4 2 2**

Rubric	Marks
In-situ Conservation	2
Ex-situ Conservation	2

Section 4 (Answer all question(s))

Marks CO BL

Q16. Write major breeding objectives. **2 3 2**

Rubric	Marks
breeding objectives	2

Q17. (a) Describe gene for gene hypothesis with suitable examples. **6 3 2**

Rubric	Marks
Meaning and concept	4
Examples	2

(OR)

(b) Explain the vertical and horizontal resistance with examples.

Rubric	Marks
vertical resistance	3
horizontal resistance	3

Section 5 (Answer all question(s))

Marks CO BL

Q18. What do you understand by intra-specific and inter-specific hybrids? **2 4 2**

Rubric	Marks
Intra-specific hybrids	1
Inter-specific hybrids	1

Q19. (a) Explain A line, B line and R line in the hybrid seed production. **6 4 2**

Rubric	Marks
A line	2
B Line	2
R Line	2

(OR)

(b) Describe hybrid seed production technology in cereals with examples.

Rubric	Marks
hybrid seed production technology in cereals	4
Examples	2

Section 6 (Answer any 2 question(s))

Marks CO BL

Q20. Briefly explain the ideotypes concept using suitable example. **4 5 3**

Rubric	Marks
ideotypes concept	3
Examples	1

Q21. Explain suitable varieties of wheat and chick pea for climate resilient. **4 5 2**

Rubric	Marks
suitable varieties for climate resilient crops.	4

Q22. Describe ideotypes characteristics of chickpea. **4 5 2**

Rubric	Marks
ideotypes characteristics of chickpea.	4

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