

2022

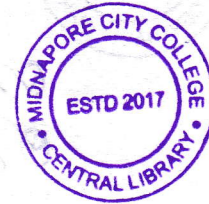
B.F.Sc. 3rd Semester Examination

Genetics and Breeding

PAPER — BFSC-306

Full Marks : 50

Time : 2 hours



The figures in the right-hand margin indicate marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

Illustrate the answers wherever necessary.

1. Answer any **ten** from the following questions :
2×10=20

(a) What is selective breeding?

(b) Write down the main objectives of gynogenesis.

(c) What do you mean by androgenesis?

(d) Define polyploidy with example.

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(Turn Over)

(2)

- ~~(j)~~ State the applications of polyploidy in aquaculture. 5
- ~~(k)~~ What is extender? 5
- ~~(l)~~ What do you mean by cryoprotectant? 5
- ~~(m)~~ What are the applications of cloning? 5
- ~~(n)~~ What do you mean by phenotypic character? 5
- ~~(o)~~ What do you mean by pure line? 5
- ~~(p)~~ Define linkage with example. 5
- ~~(q)~~ What do you mean by chromatin? 5
- ~~(r)~~ What is the significance of Mendel's laws? 5
- ~~(s)~~ Define epistatic gene. 5
- ~~(t)~~ What do you mean by mutation? 5

2. Answer **any six** from the following questions :

- (a) Give an account on hybridization technique used in aquaculture. 5
- ~~(b)~~ Define Hardy-Weinberg law. What are the forces responsible for changing gene frequency in population? 2+3=5
- ~~(c)~~ What do you mean by inbreeding? What are the uses of inbreeding? 2+3=5

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(Continued)

(3)

- ~~(d)~~ Illustrate the selection methods and breeding plans, mating designs in a carp hatchery system. 5
- ~~(e)~~ What are the problems and prospects of genetic improvement? 2½+2½=5
- ~~(f)~~ What do you mean by intraspecific crossbreeding? Explain with examples. 2+3=5
- ~~(g)~~ What are the major risk factors associated with cryopreservation of milt? 5
- ~~(h)~~ Write short notes on 'quarantine' and 'Specific Pathogen Free (SPF) stocks'. 2½+2½=5
- ~~(i)~~ What is transgenesis? Briefly describe the process of transgenesis. 2+3=5
- ~~(j)~~ What do you mean by Mutagens? Explain with examples. 2+3=5

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