

# GURUDAS COLLEGE

B. Sc. SEMESTER IV (Honours) Examination, 2021  
(Under CBCS)

Online Practical Examination, 2021

Subject: BOTA

Subject Category: Honours

CORE COURSE-10

Course: BOT-A-CC-4-10-P

Course Name: GENETICS

Date of Examination: 12<sup>th</sup> Aug, 2021      Time: 12 noon - 1:30pm

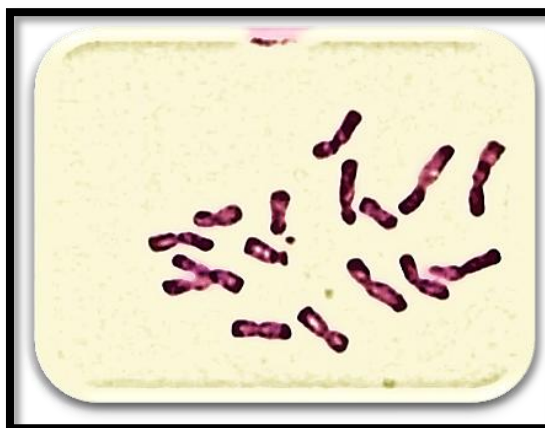
Time: 1hr 30min

FM: 30

Answer **any three** questions from the followings:

Q1). Mention any two functions of PDB. Write down the source and colour of Orcein.  
Mention two properties of any common Fixative agent. Briefly discuss about preparation of permanent slides. 2+2+2+4

Q2). Write down the staining procedure of plant chromosome analysis from root tip cells of *Allium cepa*. Determine the chromosome number and comment on the types of chromosome present from **SpecimenA**. 6+2+2



**SpecimenA**

Q3). Describe the procedure of Meiotic plate study in *Setcreasea* sp. Write the chromosome number of *Setcreasea*. Draw Meiotic plate of *Setcreasea*. 5+2+3

Q4). Mention the Identifying characters of **Meiotic metaphase I** and **Meiotic metaphase II**. Write the chromosome number of *Allium cepa*. Draw meiotic plate of *Allium cepa*. 2½ + 2½ + 2 + 3

Q5a). Determine the **Mitotic Index (M.I.)** from the data provided below.

5

Number of reading	Number of cells in dividing stages				Total number of dividing cells	Total number of cells in the microscopic field
	Prophase	Metaphase	Anaphase	Telophase		
1	5	3	1	2	11	184
2	6	7	1	1	15	230
3	7	7	2	1	17	144
<b>Total</b>	<b>18</b>	<b>17</b>	<b>4</b>	<b>4</b>	<b>43</b>	<b>558</b>

Q5b). Write the identifying characters of a **Sticky bridge** (abnormal mitotic stage) and **Anaphase bridge** (abnormal meiotic stage).

$$2\frac{1}{2} + 2\frac{1}{2} = 5$$

### Instructions for submission of answer scripts

1. Write the front page/top sheet as per instruction.
2. Scan the pages in sequence and make a single PDF file.
3. Rename file as per instruction.
4. Email the PDF file within the stipulated time to the following

Email IDs:

1. [gdcug20@gmail.com](mailto:gdcug20@gmail.com)
2. [gdcexamhons@gmail.com](mailto:gdcexamhons@gmail.com)
3. [botasem2gdc@gmail.com](mailto:botasem2gdc@gmail.com)