2ND YEAR PUC PRACTICAL EXAMINATION
SUBJECT: BIOLOGY (36)

QUESTION PAPER

TIME: 2 HOURS **MAXIMUM MARKS: 30**

1. Prepare a temporary slide to show pollen germination from the given material **"A"**and calculate the percentage of pollen germination.

OR

Prepare a temporary slide to show pollen tube growth on the stigma from the given material**"A"** and draw a labeled diagram of your observation.

OR

Prepare a temporary slide of given material **"A"**by taking a transverse section of ovary and report the number of locules and type of placentation.

OR

Prepare a temporary slide to show nuclear staining from the given material **"A"**and report the shape of the cell and number of nuclei. **5 marks**

2. Prepare a temporary slide of the given material **"B"**and identify any one stage of mitosis and draw a labeled diagram of the stage observed. **5 marks**

3. Conduct a suitable test for the given soil/water samples **"C1"**and **"C2"** and report the p^H values. **3 marks**

4. Identify **"D"** by giving two reasons. **3 marks**

5. Identify the given specimen **"E"** and name the disease it causes. **2 marks**

6.Identify **"F"** and comment on it. **2 marks**

7. Viva voce **4 marks**

8. Practical Records **6 marks**

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SCHEME OF EVALUATION

TIME: 2 HOURS **MAXIMUM MARKS: 30**

Q.NO	SUBJECT	SCHEME OF EVALUATION	NOTE TO EXAMINERS
1*	Pollen germination experiment	Preparation of the slide--**3 Marks**	***Any one of the experiments to be performed by student on the basis of selection by lottery system (A student shall select one from four experiments).**
		Calculating the % pollen germination-**2 marks**	
	Pollen tube growth on stigma experiment	Preparation of the slide--**3 Marks**	
		Labeled diagram-**2marks**	
	Transverse Section of ovary	Preparation of the slide--**3 Marks**	
		Reporting the number of locules in ovary-**1 mark**	
		Reporting the type of placentation - **1mark**	
	Nuclear staining experiment	Preparation of the slide--**3 Marks**	
		Reporting the shape of the cell-**1 mark**	
		Reporting the number of nuclei--**1mark**	
2	Slide preparation showing mitosis	Preparation of the slide-**3 Marks**	
		Identifying any one stage-**1mark**	
		Labeled diagram-**1mark**	
3	Testing the pH of soil*/water sample	Reporting the pH values of sample A and B-**1.5 marks each**	*Soil solution has to be provided
4	Identification and commenting	Identification-**1mark**	One of the following is to be given for question no.4 Slide showing T.S of testis/ T.S of ovary/ V.S of ovary showing female gametophyte/T.S of blastula/Meiosis (If the slides are not available, suitable photograph/model that were shown in the practical classes can be given for identification and commenting)
		Any two Comments-**2 marks**	
5	Identification and commenting on the disease causing organisms	Identification with its scientific name -**1mark**	One of the following is to be given for question no.5 *Entamoeba/Plasmodium/Ascaris/Trichophyton*

		Naming the disease caused by it-**1 mark**	(If the slides are not available, suitable photographs or unlabelled drawings that were shown in the practical classes is to be given for identification and commenting)
6	Identification and commenting	Identification-**1mark** Any two Comments-**1 marks**	One of the following is to be given for question no.6 i)T.S of leaf or stem or root showing adaptations*, or ii)Animal showing Adaptations* or iii)Homologous and analogous structures or iv)Pedigree chart analysis# {#One of the Pedigree charts prepared during practical classes is to be given. The pedigree charts should carry the titles showing inheritance patterns such as Autosome linked dominant trait/Autosomal Recessive trait/X-linked dominant trait/X-linked recessive trait/Y-linked trait} *(If the specimen are not available, suitable photograph/model that were shown in the practical classes can be given for identification and commenting)
7	Viva Voce	**4 marks**	Any two questions each by the internal and external examiner to be asked. Viva should be conducted in the presence of both examiners. Questions to be asked pertaining to the experiments given in that practical examination only. Viva should be conducted in the last half an hour of practical exam or after the immediate completion of practical exam of the student, **which ever is earlier**.
8	Practical record	**6 marks**	See the table below*

*

Sl.No	% of experiments performed, recorded & Evaluated	Maximum marks to be awarded
1	≥ 91%	6
2	≥81% to 90%	5
3	≥71% to 80%	4
4	Between 41% and 70%	3
5	40% & below 40%	0

NOTE : A minimum of EIGHTEEN (18) experiments (practical classes) have to be conducted in an academic year .