

FBISE PRACTICAL BASED ASSESMENT (PBA)

BIOLOGY SSC-I

Guidelines/instructions for teachers/paper setters:

- i. There will be two Sections in PBA paper. In Section-A there will be one question having parts in it. Similarly, in Section-B there will be one question having parts in it.
- ii. In Section-A, Question No. 1 will be based only on one experiment taken from Part-I of the list of practicals.
- iii. In Section-B, Question No. 2 will be based on multiple experiments taken from Part-II of the list of practicals.
- iv. Ratio of Part-I practicals is 60% while ratio of Part-II practicals is 40% in the PBA paper.
- v. Draw diagram(s) if asked for.
- vi. In the new pattern of practicals i.e. Practical Based Assessment (PBA), there will be no marks for practical note books and viva voce. However, students may record procedures, observations, apparatus and calculation etc on any type of plain papers/work sheets / practical folder for their future memory of all aspects of practical performance in order to attempt the PBA Examination amicably.
- vii. It may be noted that performance of all the prescribed practicals is mandatory in the laboratories during the whole academic year and only those students will be able to attempt the PBA who will have performed the practicals in the laboratories as per requirement of each practical.

List of Practicals for Biology SSC-I

Part-1 (60% of practical marks ---- 6 Marks)	
01	Examination under the microscope an animal cell (e.g. from frog's blood) and a plant cell (e.g. from onion epidermis), using an appropriate temporary staining technique, such as iodine or methylene blue
02	Determination of the effect of tonicity on plasmolysis and deplasmolysis in plant cells or in Red Blood Cell
03	Experiment to show working of enzyme in vitro e.g., pepsin working on meat in test tube
04	Experiment to test enzyme action by putting diastase in a starch solution in test tube at 37°C and after fifteen minutes performing iodine test for presence of starch
05	Demonstration of the process of photosynthesis using an aquatic plant, like Hydrilla
06	Experiment to demonstrate the process of respiration in germinating seeds by using limewater
07	Investigation of the release of carbon dioxide and heat during Aerobic Respiration in germinating seeds
08	Food tests: Benedict's test for reducing sugar, iodine test for starch, spot test and emulsion test for fat, and Biuret test for protein in solution
09	Investigation of transpiration in potted plant under a bell jar
Part- 2 (40% of practical marks ---- 4 Marks)	
01	Study of different types of bacteria with the help of prepared slides and of Amoeba, Paramecium, Volvox from prepared slides/ fresh culture/charts
02	Study of external morphology of mustard plant and microscopic examination of root, stem, leaf, flower, fruit and seeds
03	Identification of major organs and organ systems in a dissected frog (Dissection by demonstrator / teacher)
04	Preparation of the wet mounts of tissue from flowering plants and study of plant and animal tissues from charts and prepared slides

05	Observation of various stages of mitosis and meiosis by slides, model and charts
06	Identification and labeling of the cellular and tissue structure in the CS of a leaf through observation under the microscope
07	Microscopic examination of a transverse section of the small intestine to show the villi
08	Identification of red and white blood cells under the light microscope on prepared slides and in diagrams and photomicrographs
09	Investigation of the effect of physical activity on pulse rate

**FEDERAL BOARD OF INTERMEDIATE
AND SECONDARY EDUCATION
ISLAMABAD**

**Subject: Biology SSC-I
Paper: Practical Based Assessment (PBA)**

Total Marks: 10

Time: 45 minutes

Roll Number						
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Name of Examination: _____

Centre Code: _____

Date: _____

Sig. of Dy. Supdt. _____

Instructions for students:

1. Carefully read all the questions and then answer them at the specified spaces.
2. Use black or blue ball point.
3. Marks are mentioned against all questions in the brackets [].
4. Students may use the last page for rough work (if required).
5. Answer the questions as per given instructions.

MODEL PAPER SSC-I BIOLOGY

Note: Attempt all questions and answer the questions within the provided spaces.

SECTION-A

Q.1 A student carried out two tests on the given food material, one with iodine solution, one with Benedict's solution to find out its nutrient contents.

i) Identify which test required the use of heat [1]

ii) Complete the following table with the appropriate reagent, used to test for, observations and conclusions where necessary. [2]

Reagent	Used to Test for	Observations	Conclusions Positive/negative
Biuret reagent			
Benedict's solution	Glucose		
	Starch		

iii) Explain why it is important to test for fats in food items?

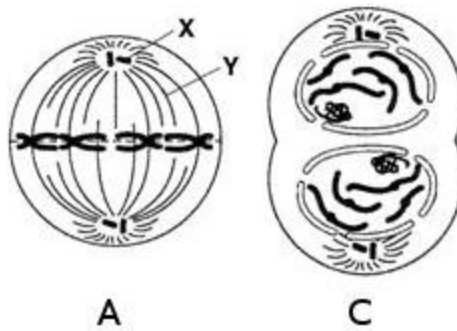
[1]

iv) A student's test gives a colour change with iodine. Does it indicate that there is no glucose and no protein in the sample? What experiment would the student have to carry out to give answer?

[2]

SECTION-B

Q.2



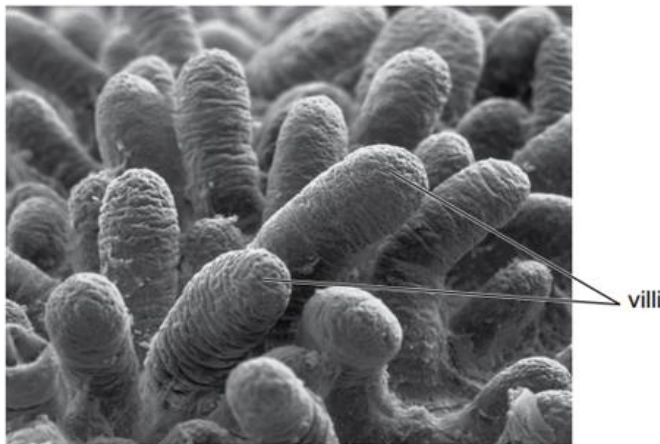
i) Identify X and Y in the given diagram A.

[1]

ii) State any one difference between diagram A and C.

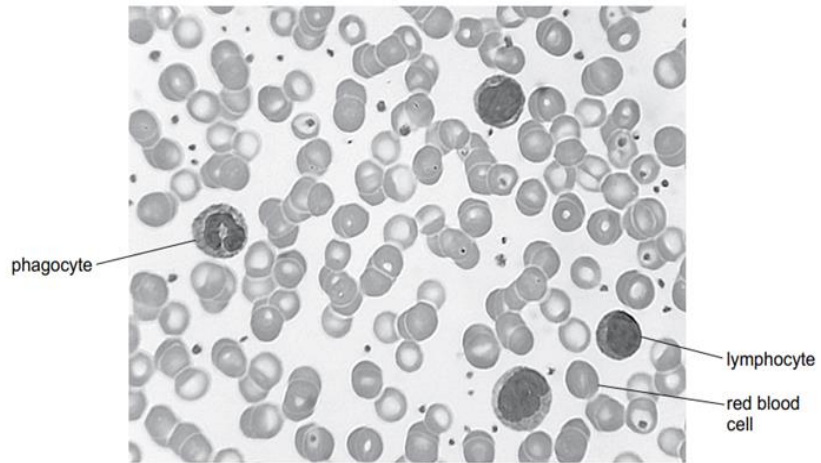
[1]

iii) The Fig. Given below shows villi. Suggest the reason why the small intestine has these finger-like projections rather than a smooth surface.



[1]

iv) Identify any one difference between the blood cells shown in the figure given below.



[1]

ROUGH WORK