FBISE PRACTICAL BASED ASSESMENT (PBA)

BIOLOGY HSSC-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.

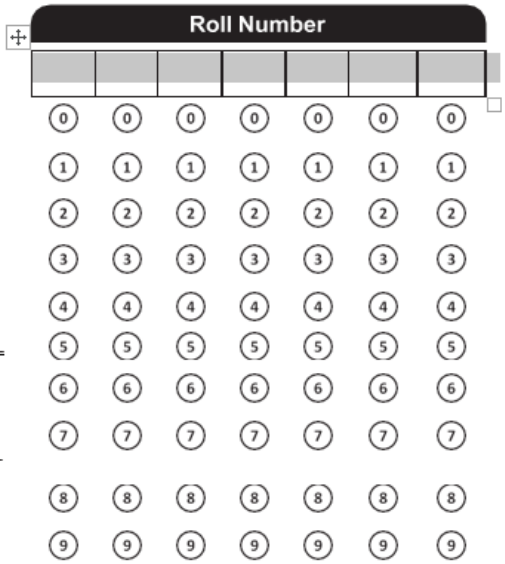
List of Practicals for Biology HSSC-I

Part-1 (60% of practical marks ---- 9 Marks)	
01	Use of graticule and micrometer to study stomata and cells
02	Preparation and examination of the slides of animal and plant cells using differential staining
03	Performing Benedict's test for reducing sugars and confirmation of the presence of starch through Iodine test
04	Confirmation of the presence of proteins through Biuret test
05	Confirmation of the presence of lipids through Emulsion test
06	Performing of chemical test to demonstrate that enzymes are proteins
07	Performing amylase test on starch with boiled amylase and un-boiled amylase in separate test tubes and confirmation through iodine test
08	Extraction of the leaf pigments and their separation by paper chromatography
09	Classifying the given invertebrates into phyla and given chordates into classes by using classification key
10	Correlating the lub-dub sounds of the closing of heart valves with the monitoring of the heartbeat
11	Measuring blood pressure by using sphygmomanometer
Part-2 (40% of practical marks ---- 6 Marks)	
01	Study of Nostoc, Ocillatoria and Anabaena from fresh or preserved material
02	Observation and drawing of representative members of each group of protists
03	Observation and drawing labeled diagrams of the life cycle of black bread mold from fresh culture and prepared slides
04	Identification of the vegetative and reproductive structures of Funaria by examining the fresh or preserved material
05	Identification of the vegetative and reproductive structures of a local fern and a Pinus and relate them with the concerned life cycles
06	Microscopic observation of the slide of LS of a dicot stem, identifying and drawing vessel element, vessel, and phloem sieve tubes
07	Describing the flowers of Rose and Solanum nigrum
08	Demonstration of phototropism , geotropism and thigmotropism in plants
09	Microscopic observation of the villi, liver and pancreas from prepared slides
10	Differentiation of an artery and a vein by observing prepared slides

FEDERAL BOARD OF INTERMEDIATE AND SECONDARY EDUCATION ISLAMABAD

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

Total Marks: 15 **Time: 60 minutes**



Name of Examination: _____

Centre Code: _____

Date: _____

Sig. of Dy. Supdt. _____

Instructions for students:

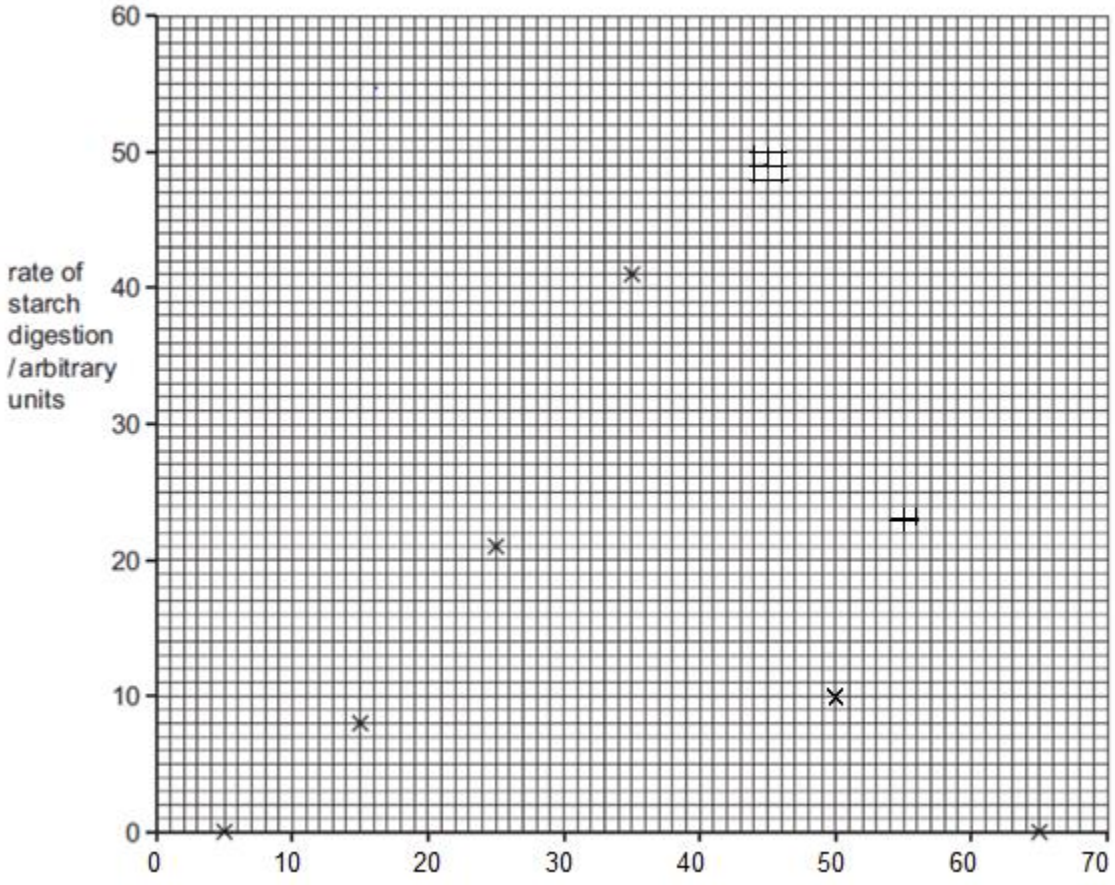
1. Carefully read all the questions and then answer them at the specified spaces.
2. Use black or blue ball point.
3. Marks are mentioned against all questions in the brackets [ ].
4. Students may use the last page for rough work (if required).
5. Answer the questions as per given instructions.

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

SECTION-A

Q1.

A series of test tubes contain amylase and starch which were incubated at different temperatures. The rate of starch digestion in each sample was recorded and shown in Fig. given below



Temperature \ C

i) Join the points plotted on line graph and estimate the optimum temperature for this enzyme.

_____ [1]

ii) Compare the rate of digestion of starch at 35°C and at 50°C from the above given graph.

_____ [1]

iii) State the effect of temperature on the rate of starch digestion from the above given graph.

_____
_____
_____
_____ [1]

iv) Which products are produced when amylase act upon starch?

_____ [1]

v) Write down the test which is used to demonstrate that enzymes are proteins.

_____
_____
_____
_____ [2]

(vi) Predict the results of the samples with amylase which was incubated at 15°C and 75°C also suggest reasons.

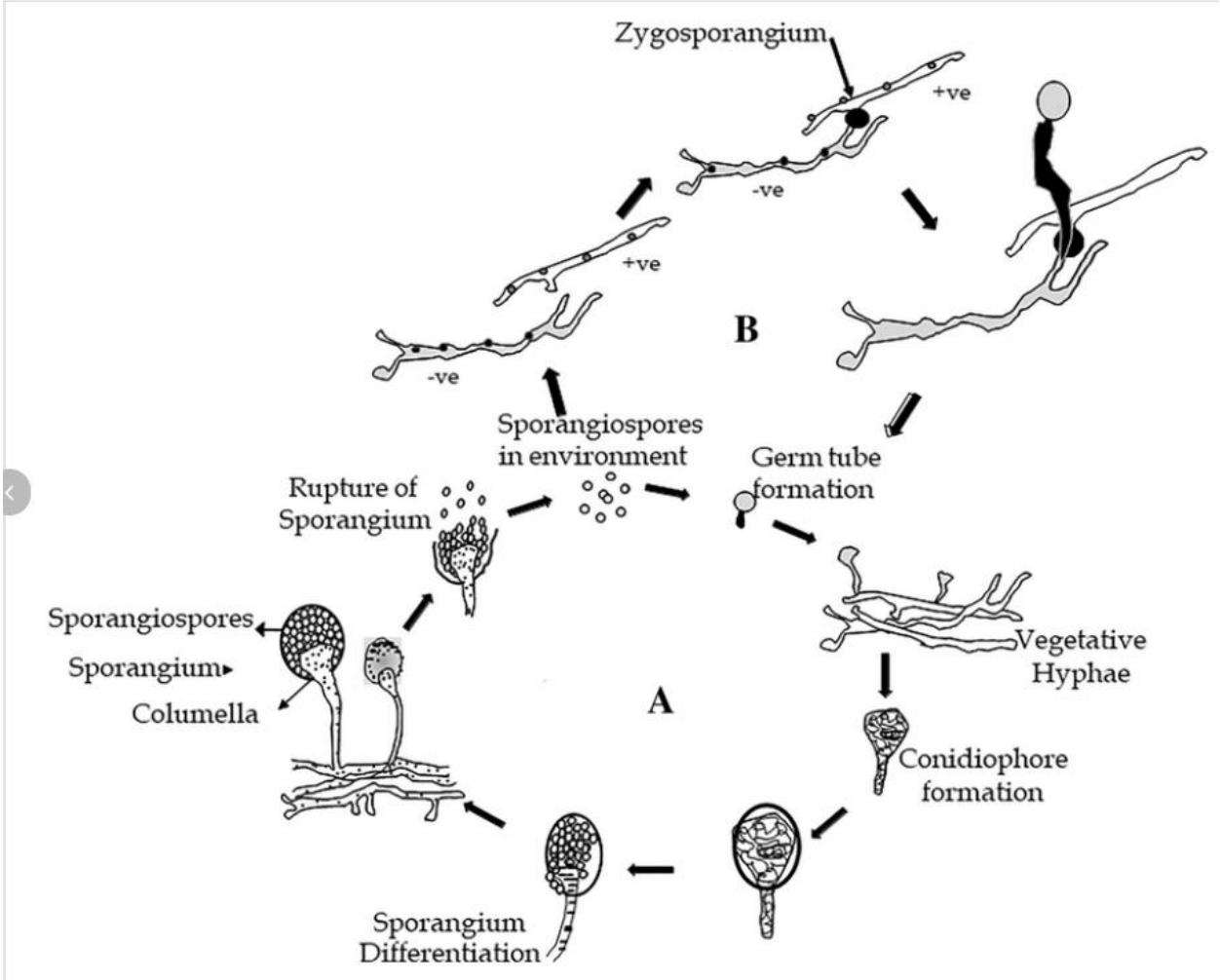
_____
_____
_____
_____ [2]

vii) Suggest that how the sample with amylase start digestion which was incubated at 15°C.

_____
_____ [1]

SECTION -B

Q2.



(i) Compare and state any two differences in the stages of A and B given in the above diagram.

_____

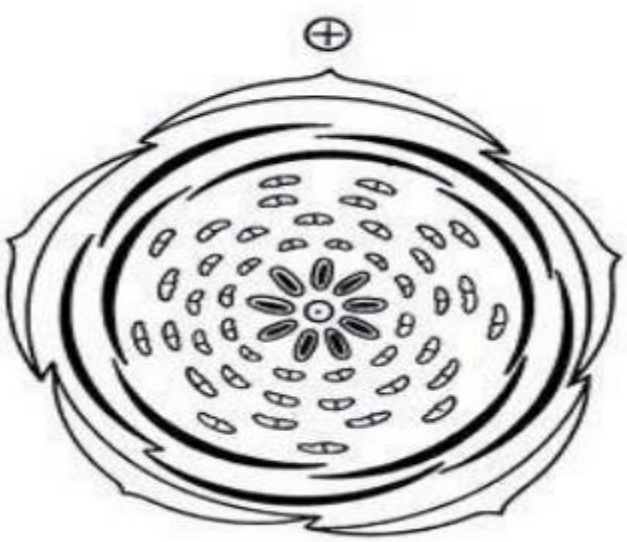
_____

_____

_____ [2]

(ii) Draw a neat and labelled diagram of an animal like protist. [1]

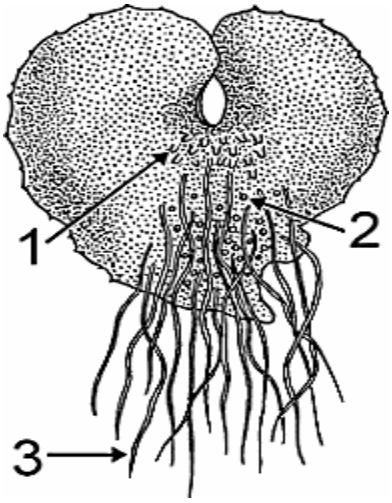
iii) Identify the following floral diagram and write down its floral formula



_____

_____ [0.5+1]

iv) Identify the structures 1,2 and 3



_____

_____

_____ [1.5]

ROUGH WORK