APPENDIX - L

BIOLOGY TEACHING COMPETENCE SCALE
*BIOLOGY TEACHING COMPETENCE SCALE (BTC Scale)*

Name of the student teacher__________________________
Roll No.__________ Class____________________________
Topic______________________________________________
Date_____________ Time duration_______________________

Part - A

Instructions

The scale is meant to rate the extent to which the student teacher/teacher could show the skill based biology teaching competence. Judgements have to be given on a seven point scale ranging from one to seven for the various items of the scale. The scale value '1' indicates that the teacher or the prospective teacher did not use the concerned skill at all whereas scale value '7' indicates that he/she used that skill very much. The observer is required to put a cross 'X' under the most suitable number or scale value.

*Technique and rationale is after Baroda General Teaching Competence Scale but the content is different.*
### Part B

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Skill</th>
<th>Not at all</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Content selected was correct, appropriate, relevant and adequate with respect to the objectives of the lesson and aims and objectives of teaching biology.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Content selected was based on questioning, diagrams, experiments, observations, demonstrating, logical continuity and inducing the results.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Audio-visual material chosen was appropriate, suited to the pupils and content, adequate and necessary for attaining the objectives.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Students were put in the position of a discoverer, curiosity to discover what, why and how was aroused, results were postponed till students discovered them on the basis of guidance and data.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>The content was explained with the help of demonstrating specimens, slides, experiments etc. effectively.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>The content was explained with the help of diagrams: drawn neatly and correctly, at reasonable speed, labelled and coloured properly.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
7. Critical awareness was brought about in pupils with the help of probing questioning: prompting, seeking further information, refocusing, redirection and increasing critical awareness.

8. Basic skills of biology practicals were shown (exposing and dissecting, making slides, using microscope, preserving specimens, observing correctly and noting readings).

9. Active participation of students was secured.

10. Blackboard work was good, legible, neat, appropriateness of content.

11. Skills of doing experiments, handling and setting the apparatus, drawing diagrams were developed in the students.

Comments, if any

Part C - Observational Guidelines

1. Establish sufficient rapport with the teacher and pupils.
2. Carefully understand the glossary.
3. Jot down the critical incidents, if any.
4. Seek clarification from the teacher (or student teacher) at the end of the lesson, if needed.
5. Use mechanical aids like videocassette recorder, tape recorder etc. if available, to record the normal and critical incidents for helping the process of rating at the end of the lesson (Passi et al., 1980).
1. Aims and objectives of teaching biology

These include the development of skills needed in biology, development of scientific attitude and training in scientific method etc. besides developing knowledge of biology. If the objective of lesson is only development of knowledge, then it is not to be considered in accordance with the aims and objectives of teaching biology.

2. Inducing the results

It means spoon feeding of facts by lecture of the teacher is replaced by the knowledge learnt as a result of thinking induced by the teacher, the observation of the demonstration and drawing diagrams.

3. Audio-visual Material Chosen

(a) Suited to pupils: To their interest and maturity levels.

(b) Suited to content: When they are related to the contents, to be presented and makes the presentation of the content more vivid.

(c) Adequate: When they are sufficient with respect to the content which they explain.

(d) Necessary for the attainment of objectives: When they facilitate attainment of objectives to a greater extent than in their absence.
4. 'Put in the position of a discoverer'.

It refers to the way of teaching in which the teacher does not teach by dictating or lecturing but gives questions or problems to the students, motivates them to solve these, suggest activities to solve these and thus students themselves find facts and discover knowledge.

5. Demonstrating effectively

It refers to teaching biology topics with the help of demonstrating specimens, slides, experiments etc. by bringing the material and handling, setting and arranging it. It also refers to the fact that demonstration was visible to all, precautions and instructions were given.

6a. reasonable speed of drawing diagrams

Reasonable speed of drawing diagrams is the speed that would allow students to follow the teacher in drawing diagrams but would not give students the time to remain idle.

6b. labelled and coloured properly

Labelled properly refers to labelling without cutting and overlapping and where the indicating lines for labelling are parallel to each other and to the lower margin of the blackboard or the paper. Coloured properly means different colours were use and the choice of the colours was not against the natural colours. For example, chloroplasts drawn with red chalks are not coloured properly.
7. Prompting ...........

Prompting means asking a series of easy questions to help the students answer the question which is not answered by them or is incompletely answered. Redirection means when a student cannot answer, the teacher redirects the same question to other students. Increasing critical awareness means asking questions based on how, why and the questions the answer of which has not been taught by the teacher and the students shall have to think critically to answer them.

8. Making slides ...........

Making slides refers to cutting sections, choosing good sections, and staining the sections to make slides. Observing correctly refers to the correct and faithful observation without forging and prejudice. Noting readings refers to correct measuring/weighing/noting readings.

9. Active participation

It refers to actively involving students in all teaching tasks including theoretical knowledge and experimentation.

10. Blackboard Work

(a) Legibility in handwriting includes the following:

(i) Every letter is distinctly different from the other.
(ii) There is adequate spacing between two letters and between two words.

(iii) Slantness of each letter is closest to the vertical.

(iv) Size of each letter is large enough to be read from the far end of the room.

(v) All capital letters are of the same size and all small letters are of the same size.

(vi) Thickness of the lines is of same width.

(b) Neatness in blackboard work includes the following:

(i) Words and sentences written are parallel to the base of the board

(ii) Spacing between lines is adequate.

(iii) There is no overwriting.

(iv) Only the relevant matter which is under the focus of classroom discussion is retained on the blackboard.

(c) Appropriateness of written work on the blackboard includes the following:

(i) There is continuity in the points being presented on the blackboard.

(ii) The points written are brief and simple.