2.2.1 The institution assesses the learning levels of the students and organizes special Programmes for advanced learners and slow learners

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Principal,
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Policy On Slow Learners and Advanced Learners

1. Introduction

Every year students from diverse academic, economic, social and family background are enrolled to the BSc Chemistry Honours Programme and BSc Regular (without honours) programme. Consequently, learning capacity of the students in a particular batch also vary. Some of them are very bright, attentive, hardworking, focussed while a large section of them has low understanding capacity, lack attitude, poor prerequisite knowledge on the subject, irregular, etc. In spite of their diverse capabilities and learning levels, we have been employing a common teaching and learning strategy for all. We feel that both slow learners and the advanced learners deserves special attention in addition to the common strategies we employ. From the academic session 2020-21, we have decided to identify the slow learners and advanced learners in a batch of honours programme and arrange special activities for them according to their need. We have avoided deciding the same in case of students taking Generic Elective (GE) or Regular Courses as the number of students in those courses are too high to manage.

2. Procedure for assessing the learning levels of the students

- Slow learners and advanced learners to be identified batch wise manner starting from the first semester of a batch.
- Assessment of learning levels to be done on the basis of following criteria:

Sl No	Criteria	Weightage (%)
1	Marks obtained in Core Courses (HC) in the First semester sessional examination	50
2	Marks obtained in Core Courses (HC) in the First semester external examination	25
3	Teacher's observation in class-room and during mentoring sessions	25

- For the criterion 3, all the teachers teaching courses will rate each student on a scale of 1 to 10.

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- Students scoring below 40 on the scale of 100 to be treated as slow learners and those scoring above 70 to be treated as advanced learners.
- The process of identification of the learners to be started just after the declaration of result of first semester external examination conducted by the parent university.
- The list of slow and advanced learners to be finalised in a meeting of all the teachers chaired by the Head of the Department.
- Modification in the list may be made following the progress of the learners in the semesters to follow. i.e., Sem II, Sem III, Sem IV, Sem V, Sem VI.

3. Activities to be arranged for slow learners

- Remedial class
- Tutorial class
- Counselling through Mentoring programme
- Concerned teachers to help slow learners solve previous year question papers.
- Anonymous query box: Slow learners usually hesitate to ask questions openly in the class in spite of having doubts about many things. Such learners may feel it comfortable to put their questions in such a query box. Questions put by the students anonymously are to be addressed by the concerned teachers in the class.

4. Activities to be arranged for advanced learners

- Encouragement to present seminar on advanced topic
- To assign advanced problems for project work.
- To Assign hard problems as assignment
- To contribute to departmental monthly publication "Molecule of the Month".
- To guide and motivate to appear in national level entrance such as JAM, central university entrance, etc.
- To train them in chemical drawing software like ChemSketch, computational software like Gaussian, etc.
- To establish MoU with institute of repute like IITG, Tezpur University for giving advanced learners opportunity to work in the research lab of such institute during their project work.

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5. Performance improvement note

- Mentor teachers assigned to the slow learners and the advanced learners to monitor the progress of the learners individually and make summary notes in their respective mentoring registers.
- Head of the department to verify such records from time to time.

6. Record keeping

Following documents are to be maintained:

- To maintain a report of assessment of learning levels of the students based on the criteria mentioned elsewhere in this document.
- To maintain separate list of slow and advanced learners.
- To maintain records of attendance of learners and other aspects of remedial classes and tutorial classes in remedial class register and tutorial class register.
- Records of contribution to the Molecule of the Month.
- To maintain records of all supports, assignments, tasks and training imparted to the learners.

Finalised in the Departmental Meeting held on 10.03.2020

Signature of the faculty members:

1. Dr Dipanjali Pathak
2. Dr Sanjib Deuri, HoD
3. Dr Hitesh Das
4. Abdur Rezzak Ali
5. Dr Nibedita Gogoi
6. Dr Sameeran Kumar Das
7. Dr Rashmi Jyoti Das

Head, Department of Chemistry
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Approved by

Dr Prakash Sarma, Principal

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Advanced Learners Special Class

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Remedial Class

ADVANCED LEARNER TRAINING EVENT
Department of Botany
Madhab Choudhury College, Barpeta.

Venue: P.G. 2nd Semester Classroom

Date: 02.04.2024

The students of P.G. 2nd Semester is being trained to act as advanced learner in order to facilitate them for providing insight for B.Sc. 6th Semester students regarding M.Sc. entrance examination. The event has lasted for two hours and students/participants were asked to present their content in ICT mode.

Name of the teacher in Charge: TRIDIP BORUAH

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Poster Prepared by Advanced Learners

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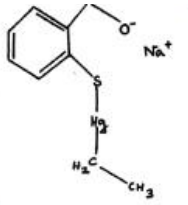

"The molecule that prevents vaccines from going stale."

Introduction → Thiomersal (INN), or thimerosal (USAN, JAN) is a organomercury compound. This compound is a well-established antiseptic and antifungal agent.

IUPAC Name → Ethyl(2-mercaptobenzoato-(2-)-O,S)mercurate(1-) sodium
Other Name → Mercury((o-carboxyphenyl)thio)ethyl sodium salt
Chemical formula → $C_9H_9HgNaO_2S$ Appearance → White or slightly yellow powder.
Molar mass → 404.81 g/mol
Density → 2.508 g/cm³
Melting point → 232 to 233 °C (450 to 451 °F, 505 to 506 K) (decomposition)
Solubility in water → 1000 g/l (20 °C)

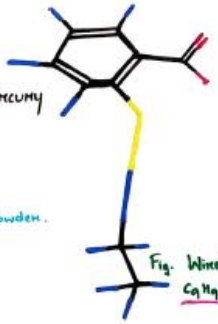

Fig. Wireframe model of $C_9H_9HgNaO_2S$

History → (Where does it get its name from?) Morris Khanarch, a chemist then at the University of Maryland filed at patent application for thiomersal in 1927; Eli Lilly later marketed the compound under the trade name Merthiolate. In vitro tests conducted by Lilly investigators H.M. Powell and W.A. Jamieson found that it was forty to fifty times as effective as phenol against Staphylococcus aureus. It was used to kill bacteria and prevent contamination in antiseptic ointments, creams, jellies, and sprays used by consumers and in hospitals, including nasal sprays, eye drops, contact lens solutions, immunoglobulins, and vaccines. Thiomersal was used as a preservative (bactericide) so that multidose vials of vaccines could be used instead of single-dose vials, which are more expensive. By 1938, Lilly's assistant director of research listed thiomersal as one of the five most important drugs ever developed by the company.

Uses → Mercury compounds have long been used medicinally. Mercury chloride was for many years used to treat syphilis, though its harmful effects outweighed any benefits. Mercury oxide was for many years (atleast until the 1970s) used in medications like Golden Eye Ointment. Thiomersal's role has been suggested that $CH_3CH_2Hg^+$ ion is the active species.

Preparation → The standard method seems to be that employed by Khanarch, reaction between ethylmercury-chloride, aqueous sodium hydroxide and thiosalicylic acid.

Importance → Vaccination was invented by Edward Jenner, who in 1796 used cowpox to create immunity to small pox. Pasteur came up with a rabies vaccine in 1885, and in the coming years vaccines were developed against more and more diseases, such as diphtheria, tetanus, anthrax, cholera and typhoid. Effective though they were a problem confronting practitioners of early 20th century child immunisation was bacterial contamination of vaccines. In the most adverse number of cases in 1928, 12 out of 21 children inoculated with contaminated diphtheria vaccine died of multiple staphylococcal abscesses and toxaemia in Queensland, Australia.

Whilst no preservative is needed for a single-dose vaccine, multidose sample usually have a rubber cap through which doses are withdrawn, and there is the possibility of bacterial contamination when a syringe needle is inserted.

Thiomersal is a organic mercury compound that is metabolized to a low molecular weight compound (the ethylmercury kation) which is an excellent inhibitor of many enzymes. It works against nearly everything, but not against bacterial endospores, in the microgram per ml range. It is somewhat outfashioned, due to the heavy metal character of the compound.

Prepared By - Subarna Gogoi (TDC 1st Sem)