MEGHALAYA BOARD OF SCHOOL EDUCATION
HEADQUARTERS :::: TURA.

No.MBOSE/HSSLC/Ex-3(B)/06/37385 Dated Tura, the 28th January, 2025.

From : Shri T. R. Laloo,
Director Accreditation & Controller of Examinations,
Meghalaya Board of School Education,
Tura.

To : The Principals of all Institutions offering Higher Secondary Level of Education.

Subject: Guidelines/instructions for conduct of the class XII HSSLC Practical Examination.

Madam/Sir,

As you are aware that as per Notification No. 966 dated Tura, the 6th September, 2024 MBOSE shall no longer supply practical question papers for the class XII HSSLC Examination from academic session 2024 - 25 onwards. The question papers for the said practical examinations are to be prepared by the subject teachers of the schools clubbed to each HSSLC Examination Centres.

MBOSE has prepared guidelines/instructions for the conduct of the class XII HSSLC Practical Examination, for the subjects where question papers were earlier supplied by the Board, namely, Physics, Chemistry, Biology, Geography, Home Science, Anthropology, Geology, Computer Science and Informatics Practices.

All HSSLC Examination Centres and subject teachers are hereby directed to adhere to the attached guideline/instruction in addition to the instructions given in the "Instructions to Officers-in-charge for the conduct of HSSLC Examination" till further orders.

The principals of schools are also requested to bring this to the knowledge of the teachers of the concerned subjects so as to make them aware of their roles as internal and external examiners.

(T. R Laloo)
Director Accreditation & Controller of Examinations,
Meghalaya Board of School Education,
Tura.

No.MBOSE/HSSLC/Ex-3(B)/06/37386 - 89 Dated Tura, the 28 th January, 2025

Copy to:

1. Executive Chairman, MBOSE, Tura.
2. Director, MBOSE Regional Office, Shillong.
3. Deputy Director, ITES, for necessary action.
4. Office file.

(T. R Laloo)
Director Accreditation & Controller of Examinations,
Meghalaya Board of School Education,
Tura.

*****

CONTENTS

*****

Guidelines for the conduct of Class XII (HSSLC Examination) Practical Examinations in the subjects, Physics, Chemistry, Biology, Geography, Anthropology, Home Science, Computer Science, Informatics Practices and Geology

Introduction:

The NEP 2020 and the NCF 2023 have emphasized on competency/skill-based education. As such, 20% or 30 % marks have been allotted for practical/internal assessment in all the subjects with a view to develop competencies/skills in the students. Therefore, it is necessary that the practical examinations, project work and internal assessments are taken seriously so that our students are equipped with all necessary skill sets to meet the demands of the ever-evolving world.

General Instructions:

1. Practical Examination shall be conducted in the schools as per the schedule given by the Board.
2. If numbers are more, students may be divided in to groups and practical examination may be conducted in shifts. A simple schedule of grouping students (into Group A, B, C D, ...) and conducting different subjects (Sub 1,2,3.....) simultaneously in a day, is shown in the table below:

Date	Sub 1		Sub 2		Sub 3		Sub 4	
	Shift 1	Shift 2	Shift 1	Shift 2	Shift 1	Shift 2	Shift 1	Shift 2
4.2.2025	A	B	C	D	E	F	G	H
5.2.2025	C	D	E	F	G	H	A	B
6.2.2025	E	F	G	H	A	B	C	D
	And	so	on					

3. The Question papers are to be set, printed, packed and kept in the safe custody of the officer-in-charge at least 2 days, but not earlier than 5 days, before the scheduled day of examination.
4. The Officer-in-charge of the centre shall appoint the subject teachers, of the institutions clubbed to the centre, to set the practical question papers. Strict confidentiality must be maintained with regards to setting of a question paper.
5. All reagents, equipment, specimens, maps, charts, computers, etc. required for practical examinations are to be kept ready.

6. Answer scripts, graph papers and blank marklist shall be supplied by the Board.
7. The expenses of conducting the practical examination shall be managed from the practical centre fee (which is currently Rs. 130 per student)
8. Maintain a record of the shifts of examination like date, students per shift, the questions/sets used in the shift etc.
9. As far as possible, avoid repetition of questions/specimens in different shifts of the examination.
10. For ease and for uniformity, the prepared template/format for practical question paper must be used. However, the template/format of question paper may be changed according to the latest prescribed syllabus.
11. It will be the sole responsibility of the Officer-in-charge to maintain confidentiality and to ensure proper conduct of the practical examination.
12. Subject-specific instructions are to be strictly followed.
13. Refer to the latest curriculum for the list of experiments/activities and the changes in practical assessment schemes.
14. Follow the instructions given in the "Instructions to Officers-in-Charge for Conduct of the HSSLC Examination", issued for each year.
15. External examiners shall be appointed. The role of the external examiner shall be-
    i. With the assistance of internal examiner, to conduct the practical examination including evaluation and taking viva.
    ii. To see that practical examination is conducted according to the guidelines and regulations, and whether the question papers have been set as per the syllabus and according to the instructions.
    iii. To see whether combination of questions/variant questions have been used in different shifts of the examination.
    iv. To see that marks are posted correctly.
    v. To choose specimens or items for spotting or identification in subjects like Biology, Geology, Anthropology, etc.
    vi. To send a confidential report, if there are any issues or any defiance of guidelines in the conduct of practical examinations.
16. All examined answer scripts and copies of question papers of practical examination are to be submitted to the Board.

17. Maintain attendance in the supplied Attendance Sheet; also tally the number of students' head count and the marks posted in the marklist. Use Blank Marklist if any student's roll number is not included in the Standard Marklist.

*****

Class XII

Subject: Physics (Practical)

Full Marks: 30 Time: 3 Hours

Instructions to Examiners

I. EVALUATION SCHEME

Topic	Marks
Two experiments one from each section	7+7
One activity from any section	3
Practical record (experiment and activities)	5
Investigatory Project	3
Viva on experiments, activities and project	5
Total	30

II. Procedural Instructions:

1. The internal examiners should check and ascertain that all the instruments required for the conduct of experiments and activities are in proper working condition.
2. Experiments of Section A are to be assigned Experiment Nos with prefix AE for example AE1, AE2, AE3..... and so on and like-wise Activities of Section A are to be numbered as AA1, AA2, AA3..... and so on. Experiments of Section B are to be assigned Experiment Nos with prefix BE for example BE1, BE2, BE3.....and so on and like-wise Activities of Section B are to be numbered as BA1, BA2, BA3..... and so on.
3. Print and keep the aims of experiments and activities (with assigned numbers) ready.
4. Refer to the latest syllabus of CBSE for list of experiments and activities under Section-A and Section-B.
5. Each examinee has to perform Two experiments- one each from Section-A and Section-B and one activity from either Section-A or Section-B in 3 hours.

6. The aims of experiments/activities (with assigned numbers) are to be pasted on the cards or put inside the envelopes. The number of such cards/envelopes should not exceed the number of candidates by more than three per batch.
7. The cards (kept upside down) or envelopes for experiments as well as activities are to be kept section wise on a table.
8. Examinees are to be called in order of Roll No. for selecting experiment and activity.
9. (a) For selecting the experiment, each examinee will draw four cards/envelopes (Two from Section-A and Two from Section-B) at a time and choose one from each section.

   (b) For selecting the activity, each examinee will draw two cards/envelops and choose one activity, either from Section A or Section B.
10. Examiners will assess the procedures undertaken by the examinees while performing the experiment and activity and by asking oral questions on the basic facts relating to the experiment and the activity (spot verification).

III. Instruction for Questions

1. Experiment 'A' should be one experiment from Section A. 7
2. Experiment 'B' should be one experiment from Section B. 7
3. Activity 'C' should be any activity either from Section A or Section B 3

Distribution of marks:

Theory/principle:	1
Completion of the activity:	1
Results & discussion	1

4. Practical record. 5

   Practical Record must contain at least 8 Experiments [with 4 from each section] and record of at least 6 Activities [with 3 each from section A and section B]
5. Investigatory project. 3
6. Viva voce 5

   (for viva questions may be asked from experiments, activity and investigatory project under taken by the student)

* * * * * * * * *

(Format for question paper-to be printed and distributed to each student)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Physics (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

Instructions:

i. *Copy the experiment number and activity number along with the section (Section A or B) to which they belong and the aims of the experiment and activity on the answer script.*
ii. *Write the theory and working formula of the experiment. All ray diagrams/circuit diagrams are to be drawn with pencil. You will be allowed to perform the experiment and activity only when the theory, diagrams, etc., are seen and signed by one of the examiners.*
iii. *Procedure of the experiment/activity are not required to be written down on the answer script.*
iv. *You are required to record the readings with pen/ball point pen in tabular form and to get at least one reading verified by the examiner. All calculations should be done on the answer script.*

1. Perform the experiment 'A' from Section-A allotted to you (write the Experiment No.). Write the theory and working formula of the experiment. Discuss the results. 7

2. Perform the experiment 'B' from section B allotted to you (write the Experiment No). Write the theory and working formula of the experiment. Discuss the results. 7

Distribution of marks for Question Nos 1 and 2	
Theory	**2**
Procedure	**2**
Tabulation Calculation, Diagrams, graph etc	**1½**
Sources of error and precautions	**1**
Result	**½**
Total	**7**

3. Perform the Activity 'C' allotted to you. Write the theory/principle, and discuss your results. 3

Distribution of marks:

Theory/principle:	1
Completion of the activity	1
Results and discussion	1

4. Practical Record 5

5. Investigatory project. 3

6. Viva voce (on experiments, activity and project) 5

****

Class XII
CHEMISTRY (Practical)

Time: 3 Hours Marks: 30

Instruction to Examiners:

Chemistry practical evaluation scheme	Marks
Volumetric Analysis	**08**
Salt Analysis	**08**
Content Based Experiment	**06**
Project Work	**04**
Class record and viva	**04**
Total	**30**

1. Any *one* the following salts should be supplied to the students for detection of anion and cation. Avoid repetition of the salt as far as possible. However, examiner may add some more or change, subject to their availability, so as to bring varieties in it: 8

1. $Pb(NO_3)_2$
2. $CuCO_3$, $CuSO_4$, $Cu(NO_3)_2$, $CuCl_2$
3. $FeSO_4$, $FeCl_3$
4. $Al_2(SO_4)_3$, $Al_2(NO_3)_3$
5. ZnS, $ZnCO_3$, $ZnSO_4$
6. $MnCl_2$, $MnSO_4$, $MnCO_3$
7. $NiSO_4$, $NiCl_2$, $NiCO_3$, $Ni(NO_3)_2$
8. $CoCl_2$, $Co(NO_3)_2$, $CoSO_4$
9. $BaCl_2$, $Ba(NO_3)_2$
10. $SrCL_2$, $Sr(NO_3)_2$
11. $MgCO_3$, $MgSO_4$, $Mg(NO_3)_2$, $MgCl_2$
12. $CaCl_2$, $Ca(No_3)_2$
13. KCl, KBr, KI, K_2CO_3, K_2SO_4, KNO_3
14. NH_4Cl, NH_4Br, $(NH_4)_2CO_3$, $(NH_4)_2SO_4$

(Note: Insoluble salts excluded)

Distribution of Marks:

Physical Characteristics(State/colour and solubility)	½
Dry test for acid radical	1
Wet test for acid radical	1
Dry test for basic radical	1
Group Separation	2
Group analysis and confirmatory test	2
Conclusion with correct formula of the salt	½
Total	**8**

[Note: If any student fails to identify the cation but gets correct precipitate in the right group, then he/she must be awarded 2 marks for group separation.]

2. *Volumetric Analysis (Titration):* Prepare 1M stock solution of oxalic acid and provide 20 mL to 30 mL of this solution in a 250 mL volumetric flask to the students. [There should be minimum 2 mL difference in the supplied solutions and minimum three variations should be done while giving solutions.] Provide 0.1(M) $KMnO_4$ solution for titration. Procedure may be supplied. 8

Distribution of Marks:

Completion of experiment	2
Correction procedure for calculation	2
Chemical equation	1
Result/Accuracy	3
Total	**8**

[Note: For error up to $\pm$ 3%, award full marks and deduct ½ mark for each 0.5% error beyond 3%.]

3. (a) *Organic analysis:* Any *one* of the following compounds may be given to each student for analysis: 3

(a) Resorcinol	(b) 4-cholorophenol	(c) 4-bromophenol
(d) 1- or 2- naphthol	(e) Oxalic acid	(f) Succinic acid
(g) Phthalic acid	(h) 2- or 4- chlorobenzoic acid	(i) Benzil
(j) 4- chlorobenzaldehyde	(k) Acetophenone	(l) Benzophenone
(m) 4- methoxybenzaldehyde	(n) Salicylic acid	(o) Benzoic acid
(p) 4-chloroaniline	(q) Benzaldehyde	(r) Acetaldehyde
(s) 4-methylaniline (p-toluidine)	(t) Acetone	(u) Aniline

Distribution of Marks:

Physical state + Solubility	½
Aromatic / Aliphatic + Saturated / Unsaturated	½ + ½ = 1
Detection of functional group	1
Conclusion	½
Total	**3**

3(b) Fixed amount of the required chemicals must be supplied to each candidate. Students should be asked to prepare any one of the following solutions (allotment to be done by drawing of lottery): 3

(i) Starch Solution
(ii) Aluminium hydroxide solution
(iii) Mohr's salt
(iv) Ferric Hydroxide solution

Distribution of Marks:

Writing procedure	1
Required turbidity/colouration	1
Physical appearance of the product	½
Completion of experiment	½
Total	**3**

[Any other content-based experiment may be given]

4. Sessional work: To be awarded by internal examiners. 2

[Regularity of the student in the practical classes should be taken into consideration.]

5. Viva voce[Related to the knowledge of the experiments allotted] 2

Note: Refer to the latest syllabus of CBSE for list of experiments.

******

(Format for question paper-to be printed and distributed to each examinee)

Higher Secondary School Leaving Certificate Examination, _____(year)		
Name of the Centre:_____		
Subject: CHEMISTRY (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

The figures in the margin indicate full marks for the questions

1. Make a complete systematic analysis of the given salt containing one anion and one cation. Record your findings systematically. Write the formula of the given salt. 8

2. Determine the strength of the supplied oxalic acid solution by titrating against 0.1 (M) $KMnO_4$ solution. Calculate the amount of oxalic acid present in the given volume of the solution. Write the equation involved in the reaction. 8

3. (a) Make a systematic analysis of the given organic sample for the detection of the functional group present in it: 3

(i)	Physical state and Solubility	½
(ii)	Aromatic/Aliphatic	½
(iii)	Saturated or Unsaturated	½
(iv)	Detection of functional groups	1
(v)	Conclusion	½

(b) Prepare any one of the following: 1+1+1=3

(i) Starch Solution
(ii) Aluminium hydroxide solution
(iii) Mohr's salt
(iv) Ferric Hydroxide solution

Write the procedure of preparation and the physical appearance of the product.

4. Investigatory Project 4

5. Sessional Work 2

6. Viva voce 2

****

HSSLC Practical Examination (Class-XII)

BIOLOGY **(Practical)**

Full Marks: 30 *Time: 3 hours*

Instruction to Examiners:

I. Evaluation Scheme:

Evaluation Scheme for Class XII		Marks
One Major Experiment Part A (Experiment No- 5)		5
One Minor Experiment Part A (Experiment No- 2, 3)		4
Slide Preparation Part A (Experiment No- 1,4)		4
Spotting Part B (Sl. No. 1-11)		2x4=8
Practical Record + Viva Voce	(Credit to the student's work over the academic session may be given)	2+2=4
Project Record + Viva Voce		3+2=5
Total		30

II. Instructions:

1. All the experimental setups, reagents and specimens prescribe in the syllabus should be kept ready prior to commencement of the examination.
2. Adjacent students should be given alternate experiments.
3. Selections of specimens, evaluation of answer scripts and investigation of project reports should be done jointly by the external and internal examiners.
4. Laboratory notebooks and project reports should be collected from the candidates before the examination begins.
6. An additional sheet of answer script should be supplied for spotting (Question No. 4) and collected back from the examinee after the completion of the process of identification and writing comments by the examinee.

Note: *(i)* Three minutes should be allotted for each spot.

(ii) No marks to be given if identification is wrong.

(iii) Combination of spots be changed between different shifts of examination.

7. Refer to the latest syllabus for the list of Experiments.

III. Instruction for Questions:

1. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc. (Experiment 'A') 5

Distribution of Marks:

Principle	2
Procedure and observation	2
Discussion	1
Total	**5**

2. For Experiment 'B' any one from the following experiments may be allotted to the students by lots:

(a) Study of plant population frequency by quadrat method. 4

(b) Study the plant population density by quadrat method. 4

Distribution of Marks:

Principle	1
Observation /Result	2
Discussion	1
Total	**4**

3. Preparation of temporary slide of any one of the following: 4

(a) mitosis of onion root tips and identification of any one stage.

Or

(b) study of pollen germination and calculation of percentage of pollen germination.

Distribution of Marks:

Slide Preparation	2
Identification/Result	2
Total	**4**

Q4. Spotting-4 Nos. Marks 2x4=8

Note:- The set of items against each spot (C to F) are to be interchanged Eg., set of items against Spot C may be given as Spot D/E/F and vice versa.

Spot 'C': TS of mammalian testis/ovary/blastula or any stage of Meiosis in a permanent slide.

Or

Controlled pollination - emasculation, tagging and bagging.

Or

Flowers adapted to Pollination by wind/insects/birds

Spot 'D': Mendelian inheritance using seeds of different colours and shapes (Monohybrid/dihybrid)

Or

Prepared pedigree charts of any one of the genetic traits such as rolling of tongue/blood groups/ear lobes/widow's peak/colour blindness

Spot 'E': Homologous/analogous organs (through models/charts/specimens)

Or

Model/specimen showing symbolic association in root modules of leguminous plants, Cuscuta on host, lichens.

Spot 'F': Disease Causing organisms- Ascaris/Entamoeba/ Plasmodium

Distribution of Marks:

Identification	1
Comments	1

5. Practical record and viva voce 2+2 =4

Assessment of Practical Records must be done based on regularity and content. Questions for viva are to be asked from practical syllabus only.

6. Project report and viva voce 3+2=5

Project report must be accessed on originality, result and discussion. Questions for viva must be related to the project work undertaken by the student.

****

(Format for question paper-to be printed and distributed to each examinee)

Higher Secondary School Leaving Certificate Examination, _____(year)		
Name of the Centre:_____		
Subject: BIOLOGY (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

Figures in the margin indicate full marks for a question.

1. Perform the Experiment 'A' allotted to you. Write the principle, observation and discuss the results. 2+2+1=5

2. Perform the Experiment 'B' allotted to you. Write the principle, observation or result and discussion. 1+2+1=4

3. Prepare temporary slide of 'C' and comment on the results. 2+2=4

4. Identify and comment on spots C, D, E and F. 2x4=8

5. Practical record and viva voce. 2+2=4

6. Project report and viva voce. 3+2=5

******

Class XII

GEOGRAPHY (Practical)

Adopted CBSE Syllabus, given by DERT(from Academic session 2025-26 onwards)

Full Marks: 30 Time: 3 hours

Instruction to Examiners

Evaluation scheme	Marks
Processing of Data and Thematic Mapping	5+6=11
Spatial Information Technology	5
Field study report	8
Practical report book	3
Viva voce (based on practical syllabus)	3
Total	30

Instruction for question papers:

i. To set the practical question papers, the Officer-in-charge of the center shall appoint subject teacher(s) of the schools clubbed to the centre. Different sets of Question Papers, differing in data sets, (named as SET I, SET II, SET III….. and so on) shall be set and printed at least 2 days ahead of the examination, but not earlier than 5 days ahead. Question papers are to be packed, set-wise, sealed and kept securely in the custody of the Officer-in-Charge of the centre. For each shift of the practical examination, the Officer-in-Charge shall randomly pick ***any two*** sets of question papers. Total number of question paper sets to be prepared shall be as per the number of students appearing/number of shifts of practical examination. Adjacent students must be given questions from alternate sets.

ii. Topographical maps, weather maps are to be kept ready for use during the examination.

iii. Make sure that the students write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.

Instruction for questions:

1. To calculate mean/median/mode of the given data set 5
   The data set should have minimum of 7 values.

   Distribution of marks:

Formula	1
Calculation	4
Total	**5**

2. To construct a choropleth map using the given data 6

Distribution of marks:

Drawing	5
Heading, scale, etc.	1
Total	**6**

Or

To represent the given data using a bar diagram/circle method/dots. 6

Distribution of Marks:

Calculation	2
Drawing	4
Total	**6**

3. Question for which written answers are to be given. Questions are to be based on Spatial Information Technology/GIS. 1x5 = 5

4. Field Study Report 8

Mark Distribution

Field Study Report	5
Viva Voce on Field Study Report	3

5. Evaluation on practical notebook on the basis of the following: 3

(a) Neatness	1
(b) Completion of work	1
(c) Signature of teacher	1

6. Viva voce on practical notebook. 3

******

Question paper format (to be printed and supplied to each student)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Geography (Practical)Question Set No.: _____		
Class XII	**Full Marks: 30**	**Time: 3 hours**

- *The figures in the margin indicate full marks for the questions*
- *Write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.*

1. (a) Calculate the _____ (mean/median/mode) from data given below. 5

2. Construct a choropleth map using the data given below. 6

Or

Represent the data given below using _____ 6

3. Answer the following questions (any 5) 1x5=5
   a.
   b.
   c.
   d.
   e.
   f.
   g.

4. Field study report and viva. 8

5. Practical notebook 3

6. Viva voce on practical syllabus. 3

*****

Class XII

GEOGRAPHY (Practical)

MBOSE Syllabus for Academic session 2024-25

Full Marks: 30 Time: 3 hours

Instruction to Examiners:

Evaluation scheme	Marks
Processing of Data and Thematic Mapping	6
Map projection and use of computer in data processing	6+4=10
Field study report	8
Practical report book	3
Viva voce	3
Total	30

Instruction for question papers:

i. To set the practical question papers, the Officer-in-charge of the center shall appoint subject teacher(s) of the schools clubbed to the centre. Different sets of Question Papers, differing in data sets, (named as SET I, SET II, SET III….. and so on) shall be set and printed at least 2 days ahead (but not more than 5 days ahead of the examination) days ahead. Question papers are to be packed, set-wise, sealed and kept securely in the custody of the school Principal. Different sets of question papers will vary in the data sets given for each question. The principal shall randomly pick ***any two*** sets of question papers for each shift of the practical examination. Total number of question paper sets to be prepared shall be as per the number of students appearing/number of shifts of practical examination. Adjacent students must be given questions from alternate sets.

ii. Topographical maps, weather maps are to be kept ready for use during the examination.

iii. Make sure that the students write down the Practical Question Set number allotted to him/her on the top right corner of the answerscript, on the first/cover page.

Instruction for questions:

1. To calculate arithmetic mean/median/mode from the given data. Use at least 3 different data set per shift of the examination. Change the data set for every shift of the Examination. 6

Distribution of Marks:

Formula	1
Calculation	5
Total	**6**

Or

Construction of a choropleth map using the given data. 6

Distribution of Marks:	
Drawing	5
Heading, Scale, etc.	1
Total	**6**

2. Construction of a graticule for the given map projection. 6

Distribution of Marks:	
Calculation	1
Drawing	3
Uses	1
Properties	1
Total	**6**

Sample question: Construct a simple conical projection with one standard parallel on a scale of **1 : 150,000,000** at an interval of **15° S to 75° S** and **45° E to 135° E**. Write its **properties and uses**. (Change the underlined values to generate variant questions)

3. Question for which written answers are to be given. Questions are to be based on Use of computers in Data processing.6 (six) questions may be given out of which 4 (four) are to be answered by the students. 1x4 = 4

4. Field Study Report 8

Mark Distribution	
Field Study Report	5
Viva Voce on Field Study Report	3

5. Evaluation on practical notebook on the basis of the following: 3

(a) Neatness	1
(b) Completion of work	1
(c) Signature of teacher	1

6. Viva voce on practical notebook. 3

******

Question paper format (to be printed and supplied to each student)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Geography (Practical)		**Question Set No. _____**
Class XII	**Full Marks: 30**	**Time: 3 hours**

- *The figures in the margin indicate full marks for the questions*
- *Write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.*

7. (a) Calculate the _____ (mean/median/mode) from the given data. 6

Or

(b) Construct a choropleth map using the given data. 6

8. Construct a conical projection with one standard parallel for an area bounded by _____ latitude and _____longitudes when the scale is **1:**_____ and latitudinal and longitudinal interval is_____°. Write the _____of conical projections. 6

9. Answer the Following questions (any four): 1x4=4

(i)

(ii)

(iii)

(iv)

(v)

(vi)

10. Field study report and viva. 8

11. Practical notebook 3

12. Viva voce on practical syllabus. 3

******

Class XII

Home Science (Practical)

(adopted CBSE Syllabus wef Academic Session 2025-26)

Full Marks: 30 Time: 3 hours

Instruction to Examiners:

Assessment Scheme	
Units	Marks
Nutrition, Food Science and Technology	5+2=7
Fabric and Apparel	4+2=6
Resource Management	5
Project	5
Practical Record File	5
Viva voce	2
Total	30

A. Articles to be made available by the examination center:

1. Cooking utensils (pots and pans with cover, karahi, tawa, rolling pin, spoons, pressure cooker, Steamer, strainer, grater, knife, etc)

2. Raw materials/ ingredients such as spices, salt, sugar, jaggery, preservatives, colours, ghee/oil, cereals, pulses, various flours, chivra, suji, dalia, groundnuts, bread, butter, milk, curd, water , etc must be supplied.

3. List of cooking utensils and list of ingredients available must be made known to the students at the beginning of the examination shift.

5. Supply sample of stains (of ball pen/curry/grease/ ink/lipstick/tea/coffee) on 3x3 inches white cotton cloth. Necessary items for stain removal such as glycerin, soap, salt, limejuice, talcum powder, sour butter milk, borax powder, spiritetc must be supplied.

8. supply 8x8 inches white cotton and dyeing colours for tie and dye/batik/block printing. Other necessary items such as thread, wax, pattern block, etc must also be supplied.

Instruction for questions:

1. Modification of any one family meal for elderly person. Preparing any one of the modified dish. 5

Distribution of marks

Meal plan	1
Suitability	2
Finished dish (appearance & Taste)	2
Justification	1
Total	**5**

***Note**: marks are to be allotted based on appropriateness of the modified meal to the given criteria and whether the meal is balanced or not.*

Sample question: Normal meal of a family comprise of *cereal, pulses, seasonal vegetables and chicken.* Suggest a modification of the above meal for a *60-year-old elderly person* who *does not have molar teeth*. Making use of the available ingredients, prepare one modified vegetarian dish from the prepared menu and justify the modification.(Appropriately change the underlined values/criteria to generate variant questions).

Or

Development and preparation of any one supplementary food for pre-schooler (2-6 years) nutrition programme. 5

Mark distribution:

Recipe	1
Suitability for and acceptability by preschoolers	1
Finished dish (appearance &taste)	2
Justification/discussion	1
Total	**5**

Sample question: Prepare a low-costrecipe (not more than **Rs. 8** per serving) that will be a good source of **calcium** for preschoolers attending an *Anganwadi* (change the underlined value and nutrient to generate variant questions).

OR

Planning a menu for school canteen and preparing any one nutritious dish. 5

Mark distribution:

Menu	2
Recipe and its suitability	1
Finished dish (appearance and taste)	½ + ½
Justification/Discussion	1
Total	5

Sample question: Plan a menu for a school canteen catering to students of secondary level. Using the available ingredients, prepare one nutritious dish from the menu prepared by you. Discuss the benefits of providing nutritious meal in school canteens.

2. Identify adulterant using chemical test. Students are to be supplied with adulterated samples (by drawing of lottery) listed below along with glasswares and reagents for conducting tests on food adulteration: 2

Pure ghee/tea leaves/whole black pepper/turmeric powder/ milk/asafetida.

Mark distribution:

Principle/Theory	1
Result	1
Total	2

3. Prepare a sample using applied textile design techniques tie and dye/batik/block printing. 4

Mark distribution:	
Theory	1
Procedure/execution	2
Result	1
Total	**4**

4. Students should be given (by lottery)a 3"x3" white cotton fabric stained with one of the following to identify and remove: 2

Ball pen, curry, grease, ink, lipstick, tea, coffee.

Mark distribution:	
Identification of stain	1
Removal	1
Total	2

5. Develop a leaflet/pamphlet for Consumer Education and Protection on any one of the following topics (topics to be allotted by drawing of lottery): a) Consumer Protection Act (CPA) b) Consumer responsibilities c) Consumer organization d) Consumer Problems 5

Mark distribution:	
Heading and subheadings	1
Content/Text	2
Design	1
Appropriateness for the target audience	1
Total	**5**

6. Project 5

7. Practical File should be assessed on neatness, regularity and proper procedures followed by the students. 5

8. Questions for viva should be asked from the practical syllabus and project work undertaken by the student. 2

****

(Format for question paper (to be printed and distributed to each examinee)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Home Science (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

Figures on the margin indicate full marks

1. Perform the activity allotted to you. Prepare one dish as per the given directions. 5
2. Perform simple test for checking adulteration in the sample provided. Write down the method used and the result. 2
3. Using _____ technique, prepare a design on the supplied fabric. 4
4. Identify and remove the given stain using appropriate method. 2
5. State the target audience and develop a leaflet/pamphlet for Consumer Education and Protection on the given topic. 5
6. Project 5
7. Practical File. 5
8. Viva voce. 2

******

Class XII

Home Science (Practical)

(MBOSE Syllabus for Academic Session 2024-25)

Full Marks: 30 Time: 3 hours

Instruction to Examiners:

Assessment Scheme	
units	marks
Community Development and Services	7
Textiles and Clothing	8
Food and Nutrition	8
Practical Journal	5
Viva Voce	2
Total	30

Instruction for questions:

1. Students are to be provided with any two of the samples (by drawing of lottery) listed below along with glasswares and reagents for conducting tests on food adulteration: 7

   Rice, Wheat, Red gram pulses, Tea leaves, Turmeric powder, Peppercorns/pepper powder, Chilly powder

   Distribution of marks:

   Principle/theory - 2
   Procedure - 3
   Result - 2
   Total - **7**

2. (a) Students should be given (by lottery) any one fibre from the following, to examine under a microscope for identification & comments. 2

   Cotton, Wool, Silk, Polyester

   Distribution of marks:

   Identification - 1
   Characteristic feature 1
   Total - **2**

(b) Students should be given (by lottery)a cotton fabric stained with one of the following to identify and remove: 2

Curry, Lipstick, Ice Cream, Tea,

Distribution of marks:

Identification -	1
Removal	1
Total -	**2**

(c) Submission of the articles completed in class(the making of articles during practical classes are to be assessed internally and the marks secured by the student is to be given here)4

3. Students should be provided with ingredients and necessary equipments for preparing a snack. Students should be given (by lottery) one food item from the following for preparing a snack: 8

(a) Pulses (b) Cereals (c) Egg

Distribution of marks:

Recipe	2
Preparation	4
Serve	2
Total -	**8**

4. **Practical Journal:** Assessed should be based on neatness, regularity and proper procedures followed by the students. 5

5. **Viva Voce:** Questions for viva should be asked from the practical syllabus only. 2

******

(Format for question paper (to be printed and distributed to each examinee)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Home Science (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

9. Perform simple test for checking adulteration in the sample provided. Write down the method used and the result. 2+3+2=7

10. (a) Conduct a microscopic test for the identification of the given fibre and write one characteristic feature of the fibre. 1+1=2

    (b) Identify and remove the given stain using appropriate method. 1+1=2

    (c) Internal assessment of the articles completed in class. 4

11. (a) Write the recipe of the given snack. 2

    (b) Prepare and serve it. 4+2=6

12. Practical journal. 5

13. Viva voce. 2

***

Class XII

ANTHROPOLOGY **(Practical)**

Full Marks: 30 *Time: 3 hours*

Instruction to Examiners

Practical Assessment Scheme:

Activity	Marks
Tools	10
Bones	10
Laboratory record	5
Viva voce	5
Total	30

Instruction for questions:

1. **Prehistoric culture (Tools):** At least 3 different stone tools must be used for every shift of the exam. Change the set of stone tools for different shifts of the examination. Allot one stone tool to each student. Candidates may be asked to draw only one view (dorsal or ventral) of the tool. 10

Distribution of Marks:

Identification -	2
Drawing -	2
Labelling -	2
Description (Including probable period, technique of manufacture and function)	4
Total	**10**

2. **Human Bones:** At least 3 different human bones must be used for every shift of the exam. Change the set of bones for different shifts of the examination. Allot one human bone to each student. Students must identify, locate, draw (one view only) and describe the bone. 10

Distribution of Marks:

Identification and Location	2
Drawing and Labelling	4
Description	4
Total	**10**

3. **Laboratory Notebook:** Examiners should assess the laboratory notebook on the basis of procedure followed, regularity and neatness. 5

4. **Viva voce:** Questions for viva may be asked based on practical syllabus only. 5

******

(Format of question paper to be printed and supplied to all examinees)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Anthropology (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

The figures in the margin indicate full marks for the questions

1. Identify, draw (one view only), label, and describe the prehistoric stone tool supplied to you. 2+2+2+4=10

2. Identify and locate the human bone supplied to you. Draw (one view only), label and describe only the important parts of the given bone. 1+1+2+2+4=10

3. Laboratory notebook. 5

4. Viva voce. 5

*****

Class XII

GEOLOGY (Practical)

Full Marks: 30 **Time: 3 hours**

Instruction to Examiners:

Evaluation Scheme		Marks
Sedimentology (1½ x 4)		**6**
Palaentology	**Drawing and labelling**	**2**
	Identification(1½ x 4)	**6**
Lithostatigraphy (1½ x 4)		**6**
Economic Minerals (1½ x 4)		**6**
Field work		**2**
Viva voce		**2**
Total		**30**

1. Supply any *four* sedimentary rocks for identification: 6
Sandstone; Limestone; Shale; Clay; Conglomerate; and Coal

Distribution of Marks:

Mineral constituents	½
Texture/Structure	½
Name	½
Total	**1 ½ x 4 = 6**

2. Supply any *one* fossil for drawing (choice may be given): 2

Spirifer, Productus, Terebratula, Unio, Ostrea, Exogyra, Pecten, Cardita Conus, Physa, Turritella, Nautilus, Perisphinctis, Glossopteris Gangamopteris, Vertebraria & Ptillophylum.

Distribution of Marks:

Drawing	1
Labelling	1
Total	**2**

3. Supply any *four* of the above fossils (under Sl. No. 2) for identification based on morphological characters. 6

(**Note:** fossil specimen given for drawing and labelling should not be given for identification):

Distribution of Marks:

Morphology	1
Name	½
Total	**1 ½ x 4 = 6**

4. Supply any *four* of the following rocks for identification based on mineral constituent and texture/structure (lithography): 6

Lakadong limestone; Quartzite, Therria sandstone, Sylhet trap, Mahadek sandstone, Mylliem granite, Prang limestone, Khasi greenstone, Phyllite of Shillong group, Tura sandstone, Siju limestone.

Distribution of Marks:

Lithology	½
Name	½
Age	½
Total	**1 ½ x 4 = 6**

5. Supply any *four* of the following economic minerals for identification: 6

Galena, sphalerite, chalcopyrite, hematite, magnetite, chromite, asbestos, bauxite, pyrolusite.

Distribution of Marks:

Physical characters	1
Name	½
Total	**1 ½ x 4 = 6**

6. Fieldwork to be evaluated by the internal examiner. 2

7. Viva voce to be conducted by the external examiner. 2

******

Question paper format (to be printed and supplied to each student)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: GEOLOGY (Practical)		
Class XII	**Full Marks: 30**	**Time: 3 hours**

The figures in the margins indicate full marks for the questions

1. Identify the supplied sedimentary rocks (4) on the basis of their mineral constituents and texture/structure. $1^1/_2$x4=6

2. Draw and label the supplied fossil. 2

3. Identify the supplied fossils (4 Nos) on the basis of their morphological characters. $1^1/_2$x 4=6

4. Identify the supplied rocks (4 Nos) on the basis of their mineral constituents and texture/structure. State their respective ages. $1^1/_2$ x 4=6

5. Identify the supplied economic minerals (4 Nos) on the basis of their physical properties. $1^1/_2$ x 4=6

6. Field work. 2

7. Viva voce. 2

*****

COMPUTER SCIENCE (Practical)
(Science/Arts/Commerce)

Class XII HSSLC

Full Marks: 30 Time: 3 hours

Instructions to Examiners

Assessment Scheme		
S.No	Unit Name	Marks
1	Lab Test 1(A) Python program	8
	1(B) SQL queries (4 queries based on one or two tables)	4
2	Report file/lab records: • Minimum 15 Python programs. • SQL Queries – Minimum 5 sets using one table / two tables. • Minimum 4 programs based on Python – SQL connectivity	7
3	Project (using concepts learnt in Classes 11 and 12)	8
4	Viva voce	3
	Total marks	30

1. Ensure that:
   i. Python interpreter 2.6 or above and MySQL 5.0 or above are installed on all computers that will be used for practical examination.
   ii. None of the computer in the lab is connected with Internet.
   iii. Students do not carry mobile phone/tablets/memory card/pendrives or any other electronic gadget in the laboratory.
   iv. The ratio of computer to student should be 1:1
   v. All previously written programs are to be removed from the computers and the students should not have access to previously written soft copies as well as hard copies of the programs.
2. Each shift can have a maximum of 30 students (depending on the number of computers available) with different sets of question paper.
3. Different sets of Question papers, differing in data sets (named as SET 1, SET 2, SET 3.... and so on) shall be set and printed at least 3 days ahead of the examination. The Question papers are to be packed, set-wise, sealed and kept securely in the custody of the school Principal. Only one set of question paper is to be taken out per shift of the examination. The principal shall randomly pick any one set of question paper for each shift of practical examination. Total number of question paper sets to be prepared shall be as per the number of students/number of shifts of the practical examination.

4. Each set of question paper shall consist of two parts, **Group A** and **Group B**. Group A contains 2 questions of 8 marks each, and Group B contains 2 questions of 4 marks each. One question from each Group is to be answered by the students.
5. Due weightage should be given for proper documentation and completion as per requirement of the Question, which should be conveyed to the students at the start of the examination.
6. Questions for viva-voce shall be based on either project work or lab tests
7. Laboratory Record must have at-least 15 (Fifteen) Python programs (which includes programs using user define functions, Data files programs and stack implementation using python list with proper exceptional handling codes).
8. On the day of practical examination, students must submit Laboratory Report file along with the Project Report file before the start of the examination.
9. Examiner has to evaluate the lab test programs as per the following criteria:

   - Logic of the program - 60%
   - Documentation/indentation- 20%
   - Output/presentation- 20%

10. All schools shall maintain record like dates of the examination, date-wise number of students in each shift and the SET of question paper used for the shift.
11. Make sure that the students write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.

* * * * * * * *

(Format for question paper-to be printed and distributed to each examinee)

Higher Secondary School Leaving Certificate Examination, ____(year)		
Name of the Centre:_____		
Subject: Computer Science (Practical)Question Set No _____		
Class XII	**Full Marks: 30**	**Time: 3 hours**

- *The figures in the margin indicate full marks for the questions*
- *Write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.*

Answer one question from each Group

Group A

1. Write a Python program using function to _____. 8

OR

2. Write a Python program to _____. 8

Group B

3. Write a Python application that _____. 4

OR

4. Write a Python database that _____. 4

5. Project work report. 8

6. Practical Report File. 7

7. Viva voce. 3

*****

INFORMATICS PRACTICES (Practical)
(Science/Arts/Commerce)
Class XII

Full Marks: 30 Time: 3 hours

Instructions to Examiners

Informatics Practices Practical Assessment Scheme.		
Sl.No	Unit Name	Marks
1	Lab Test: Group-A Programs using Pandas and Matplotlib	8
2	Lab Test: Group-B SQL Queries	7
3	Project (using concepts learned in class XI & XII	5
4	Laboratory record	5
5	Viva	5
	Total marks	30

12. Ensure that:
    vi. Python interpreter 2.6 or above along with all required Python libraries (such as Pandas, NumPy and Matplotlib) and MySQL 5.0 or above are installed on all computers and made available to the students.
    vii. None of the computer in the lab is connected with Internet.
    viii. Students do not carry mobile phone/tablets/memory card/pendrives or any other electronic gadget in the laboratory.
    ix. The ratio of computer to student should be 1:1
    x. All previously written programs are to be removed from the computers and the students should not have access to previously written soft copies as well as hard copies of the programs.
13. Each shift can have a maximum of 30 students (depending on the number of computers available) with different sets of question paper.
14. Different sets of Question papers, differing in data sets(named as SET I, SET II, SET III.... and so on) shall be set and printed at least 3 days ahead of the examination. The Question papers are to be packed, set-wise, sealed and kept securely in the custody of the school Principal. Only one set of question paper is to be taken out per shift of the examination. The principal shall randomly pick any one set of question paper for each shift of practical examination. Total number of question paper sets to be prepared shall be as per the number of students appearing the practical examination.

15. Each set of question paper should consist of two parts, **Group A** and **Group B**.
    Group A contains two questions, one of 8 marks each and Group B contains two questions of 7 marks. One question from Group A and one question from Group B are to be answered by the students.

16. Due weightage should be given for proper documentation and completion as per requirement of the Question, which should be conveyed to the students at the start of the examination.

17. Questions for viva-voce shall be based on either Project work or lab tests

18. Laboratory Record must have minimum of 15 programs based on Pandas, 4 based on Matplotlib and 15 SQL queries

19. On the day of practical examination students must submit Laboratory Report file along with Project report file before the start of examination.

20. Examiner has to evaluate the lab test programs as per the following criteria:

    - Logic of the program - 60%
    - Documentation/indentation- 20%
    - Output/presentation- 20%

21. All schools shall maintain record like dates of the examination, date-wise number of students in each shift and the SET of question paper used for the shift.

22. Make sure that the students write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.

* * * *

(Format for question paper-to be printed and distributed to each examinee)

Higher Secondary School Leaving Certificate Examination,_____(year)		
Name of the Centre:_____		
Subject: Informatics Practices (Practical) Question SET: _____		
Class XII	**Full Marks: 30**	**Time: 3 hours**

- *The figures in the margin indicate full marks for the questions*
- *Write down the Practical Question Set number allotted to him/her on the top right corner of the answer script, on the first/cover page.*

*Answer **one** question from each Group.*

Group -A

8. Write a Python program to _____. 8

Or

9. Write a python Program to_____. 8

Group - B

10. Create a table _____. 7

Or

11. Create a table _____. 7

12. Project Work Report. 5

13. Practical Record File. 5

14. Viva voce. 5

*****