



পশ্চিমবঙ্গ উচ্চ মাধ্যমিক শিক্ষা সংসদ

বিদ্যাসাগর ভবন

৯/২, ব্লক-ডি.জে., সেক্টর-২, সল্টলেক সিটি

কলকাতা-৭০০০৯১

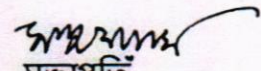
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সংশোধনী বিজ্ঞপ্তি

এতদ্বারা সকল বিদ্যায়তনের প্রধানদের জানানো যাচ্ছে যে ২০২১ সালের উচ্চমাধ্যমিক পরীক্ষা এবং একাদশ শ্রেণীর বার্ষিক পরীক্ষার পূর্ণাঙ্গ সূচি প্রকাশিত হয়েছে। ১৫ই জুন, ২০২১ থেকে শুরু করে ৩ জুলাই ২০২১ পর্যন্ত লিখিত পরীক্ষা চলবে। ব্যবহারিক (Practical) পরীক্ষা ১০ মার্চ ২০২১ থেকে ৩১ মার্চ ২০২১ এর মধ্যে বিদ্যায়তনগুলিকে নিতে হবে। Practical পরীক্ষার ক্ষেত্রে করোনার প্রেক্ষিতে বিদ্যায়তনগুলি নিজ নিজ দায়িত্বে ও ব্যবস্থাপনায় সংসদ প্রেরিত তালিকাভুক্ত বিষয় গুলি থেকে (Topic) নির্বাচন করে Practical পরীক্ষা সম্পূর্ণ করবেন এবং পরীক্ষান্তে ২০ এপ্রিলের মধ্যে Practical এর নম্বর ও উত্তরপত্র সংসদে জমা দেবেন। Practical পরীক্ষার বিষয়ভিত্তিক chapter (Topic) এর তালিকা বিদ্যালয়গুলির অবগতির জন্য নীচে দেওয়া হলো।

সংশ্লিষ্ট সকলের সহযোগিতার আবেদন জানাচ্ছি।


সভাপতি

পঃব: উচ্চমাধ্যমিক শিক্ষা সংসদ

H.S Examination Practical Topics

1. Geography

UNIT (ALLOTTED MARKS)	SUB-UNIT	PROPOSED TOPICS	PROPOSED QUESTION STRUCTURE
1. Interpretation of Topographical Maps: (Plateau Region) [8 marks]	<ul style="list-style-type: none"> > Location, Topography with the help of contours (Draw of Cross section to show the topographical features like - valley spur, escarpment, peak (hill top) etc.) Drainage System, Natural Vegetation, Transport and communication and settlement. > Co - relation with different physical and cultural elements with the help of Transect Chart. 	<ul style="list-style-type: none"> • Draw of Cross section to show the topographical features • Co - relation with different physical and cultural elements with the help of Transect Chart. • Symbols of Topographical Maps 	<ul style="list-style-type: none"> • Draw of Cross section to show the topographical features [3] • Co - relation between any two elements with the help of Transect Chart. [4] • Symbol of Topographical Maps [1]
2. Map Projection [6 marks]	<ul style="list-style-type: none"> > Cylindrical Equal Area Projection > Simple Conical with one standard parallel 	<ul style="list-style-type: none"> • Cylindrical Equal Area Projection 	<ul style="list-style-type: none"> • Calculation and drawing of a projection [5] • VSAQ [1]
3. Statistics [6 marks]	<ul style="list-style-type: none"> > Concept of data: Primary & Secondary Grouped & ungrouped > Tabulation & classification of data > Frequency Distribution, Histogram > Frequency Polygon & Ogive > Measures of Central Tendency: Mean, Median, Mode (calculation & computation) > Standard Deviation & coefficient of variation 	<ul style="list-style-type: none"> • Concept of data: Primary & Secondary Grouped & ungrouped • Tabulation & classification of data • Frequency Distribution, Histogram • Frequency Polygon & Ogive 	<ul style="list-style-type: none"> • Prepare a proper table and drawing of any one item from frequency distribution [5] • VSAQ [1]
4. Project Work [5 marks]	<ul style="list-style-type: none"> > People's Biodiversity Register > Earthquake & Landslides - Himalayan Region > Volcanic Eruption - Japan > Drought - Bankura, Purulia > Flood - Sunderban 	<ul style="list-style-type: none"> • Any one 	<ul style="list-style-type: none"> • project Report [3] • Viva-voce [2]
5. Laboratory Note Book [5]	-----	<ul style="list-style-type: none"> • Laboratory Note Book <p>[PREPARED ON THE BASIS OF PROPOSED TOPICS]</p>	<ul style="list-style-type: none"> • Laboratory Note Book [3] • Viva-voce [2]

H.S Examination Practical Topics

2. Physics

PHYSICS PRACTICAL

CLASS- XII

Evaluation Scheme:-

1) Two experiments one from each Section 8+8=16

2) Practical record(experiments) --04

3) Project with viva - 05

4) Viva on experiment 05

Total=30

Section A

1) To find resistance of a given wire using meter bridge and hence determine the specific resistance of its materials.

2) To determine resistance per cm of a given wire by plotting a graph of potential difference versus current.

3) To verify the laws of combination series/parallel of resistances using a meter bridge.

4) To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

Section-B

1) To find the focal length of a convex lens by plotting graphs between u and v between $1/u$ and $1/v$.

2) To determine angle of incidence and angle of deviation of a prism.

3) To determine refractive index of a glass slab using a travelling microscope.

4) To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias.

5) To draw the characteristics curve of a Zener diode and to determine its reverse break down voltage.

3. Chemistry

1. Volumetric Analysis

(Marks 10)

2. Salt Analysis

(Marks 08)

3. Content based Experiments

(Marks 06)

4. Class record or /Project Work and Viva-voce

(Marks 06)

A. Chemical Kinetics

(Marks 04)

a) Effect of Concentration and Temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric Acid

OR

b) Study of reaction rates of the reaction of iodide ion with Hydrogen Peroxide at room temperature using different concentration of iodide ions.

OR

B. Electrochemistry

(Marks 04)

Variation of Cell Potential in $Zn | Zn^{2+} || Cu^{2+} | Cu$ with change in concentration of Electrolytes $[CuSO_4 \text{ Or } ZnSO_4]$ at room temperature.

C. Tests for functional groups present in organic compounds (Any One)

(Marks 02)

Alcoholic(-OH), Aldehydic (-CHO), Ketonic ($>C=O$), Carboxylic (-COOH) groups.

D. Determination of concentration/ Molarities of $KMnO_4$ solution by titrating it against a standard solution of (Any one experiment only)

(Marks 10)

i) Oxalic Acid

ii) Ferrous Ammonium Sulphate

4. Home Management & Family Resource Management

১। চার্ট প্রস্তুতি:

(ক) বাড়ির বাইরে কর্মরতা এবং বাড়ির বাইরে কর্মরতা নন এরকম গৃহিনীর সারাদিনের কর্মসূচি।

(খ) শিক্ষার্থীর দৈনিক ও সাপ্তাহিক সময়সারণি।

২। অ্যাকাউন্ট খোলার ফর্ম (সেভিংস অ্যাকাউন্ট, কারেন্ট অ্যাকাউন্ট, রেকারিং ডিপোজিট), পে-ইন-স্লিপ সংগ্রহ এবং পূরণ করা শেখা।

৩। বিভিন্ন আয়ের শ্রেণিভুক্ত পরিবারের বাজেট প্রস্তুতি।

৪। পরীক্ষাগারে পাঠের সামগ্রী প্রস্তুতি – বর্ণমালার বই, সংখ্যা গণনার বই, ছড়ার বই (যে কোন একটি)।

৫। বস্ত্র থেকে দাগ অপসারণ।

৬। বসার ঘর, খাবার ঘর, শোবার ঘর, স্নানাগার এবং রান্নাঘরের মেঝেতে আসবাবপত্রের বিন্যাস।

৭। বিভিন্ন প্রকার প্রস্তুত খাদ্যের লেবেল সংগ্রহ করে বিশ্লেষণ করা।

1. Chart Preparation:

H.S Examination Practical Topics

- i) Activities carried out in a day by a working and non-working home maker.
- ii) To prepare a daily and weekly time schedule for self.
2. To collect account opening forms (Savings, Current, Recurring) and pay-in-slips and to learn filling up process.
3. To prepare family budget of different income group.
4. Preparing reading materials: alphabet books, counting books, nursery rhyme books (any one) in the laboratory.
5. Removal of stains from fabrics.
6. Making furniture/floor layout for living room, dining room, bedroom, bathroom and kitchen.
7. Collect and analyze labels of various food products.

5. Biological Science

I. List of Experiments are to be done :

1. Study pollen germination on a slide
2. Study of plant population density by quadrat method
3. Study of plant population frequency by quadrat method
4. Prepare a temporary mount of onion root tip to study mitosis
5. To study the effect of the different temperatures and three different pH on the activity of salivary amylase on starch

II. Spottings are to be done :

1. Flowers adapted to pollination by different agencies (wind, insect) - any one type with two features
2. Meiosis in onion bud through permanent slides
3. Two plants found in xerophytic conditions - comment upon their morphological adaptations

H.S Examination Practical Topics

4. Plant found in aquatic conditions — comment upon their morphological adaptations
5. Identification of stages of gamete development i.e. T.S. of testis and ovary through permanent slides (from any mammal) — any one
6. T.S. of blastula through permanent slides
7. Identification of common disease causing organisms like Ascaris, Entamoeba, Plasmodium, ringworm through permanent slide or specimens. Comment on the symptoms of diseases that they cause — any one
8. Animals found in aquatic conditions. Comment upon their morphological adaptations (any one animal).

6. Nutrition

- Detection of carbohydrate, protein (albumin) and fat in food.
- Preparation of nutritious snacks for school tiffin based on locally available food
- Prepare a day's diet for an average adult woman, allowances for pregnant and nursing mother

7. Computer Science

Discarded Topics in Computer Science Practical

- SQL- Database Management System
- C Programming – Command Line, Argument, File operations, I/O File Handling, 2D Array

8. Computer Application

H.S Examination Practical Topics

FULL MARKS - 30					
Sl. No.	Section	UNIT	Topics may cover	MARKS	TOTAL
1)	Group A	MS. EXCEL	* Different formula * Use of Functions. * Graphs & charts. * Excel sheet creation.	10	30
2)	Group B	HTML	* Creating HTML Pages. * Use of Different Tags. * Ordered, Unordered List tags. * Hyperlink web pages. * Image insert tag.	5	
3)	Group C	PROJECT + LAB COPY	* As per revised Syllabus in unavoidable situation. Hard copy (Printout OR Handwritten)	10	
4)	Group D	Viva-voce	* Question on Practical.	5	

9. Health & Physical Education

Practical - 60 Marks

GROUP - A : FORMAL ACTIVITIES MARCHING, BROTOCHARI AND CALLISTHENICS (ANY ONE) (10 MARKS)

1. Marching :
2. Brotochari
3. Calisthenics :

GROUP - B: ATHLETICS (ANY ONE EVENT) (10 Marks)

GROUP - C: YOGASANA /GYMNASTICS / TEAM GAME(Only individual skill test) (ANY ONE) (20 MARKS)

GROUP - D : ACTIVITY-BASED PROJECT REPORT (20 Marks)

The students will be required to submit activity-based project report on Kanyashree or BMI & Physical Fitness as per format given in the Health & Physical Education book published by the West Bengal Council of Higher Secondary Education.

Total Marks of the Project : 20 Marks

H.S Examination Practical Topics

10. Agronomy

1. Identification of different manures and fertilizers. Acquaintance with different methods of fertilizer application. Study of the effect of fertilizers and other agricultural chemicals on crop growth and yield.
2. Familiarity with different crop production operations (seedling raising, transplanting etc) in the important crops consistent to the theory course.
3. Identification of different farm weeds, important diseases, insect pests and their damages, handling of hand sprayer and duster.
4. Construction of manure pit. Raising of green manure crops for green manuring.
5. Acquaintance with the cultivation of important crops according to the theory course.
6. Students' practice of budding, inarching & Goote making.

11. Statistics

- Correlation and Regression
- Time Series
- Theoretical distributions

12. Psychology

- Leadership Potential by following sociometric method
- Personality assessment by KNPI or KIEI
- Measurement of health status by GHQ

13. Music

Practical –

Group A : 21 M

Group B : 12 M

Group C : 12 M

Viva Voce : 10 M

Group A :

1. Khayal-

Both Vilambit and Drut in Ektal and Trital respectively in anyone of the following Ragas- Kedar , Malkaus , Bagesri or Jaunpuri [8+6=14 M]

2. Anyone Dhrupad with dwigun laya in the above mentioned Ragas [7 M]

Group B :

Rabindra Sangeet [6 + 6]

a. Types – Kirtan , Bhanusingher padabali

b. Talas – Ektal , Teora , Kaharba , Ruparka

c. Paryas – Puja , Prem , Anusthanik

Group C :

Other types of music (may use harmonium)

a. Atulprasadi or Nazrulgeeti [4 M]

b. Any one Regional folk song or Kirtan (in any tal) [4 M]

c. Songs of Jatra or Song of Salil Chowdhury [4 M]

Viva Voce :

a. Notation Reading [4 M]

b. Identification of Raga [3 M]

c. Identification of Tala [3 M]

14. Visual Arts

H.S Examination Practical Topics

Group A :

Painting [20 M]

Composition of a Painting depicting a street corner or a shop with at least three human figures using pencil , pen & ink , oil pastels , water colour or poster colour or mixed media on paper

Drawing [15 M]

a. Drawing from architectures (buildings , houses etc) showing perspectives with soft pencil on paper

Or

b. Drawing from nature , landscapes , people , animals , birds etc with soft pencil on paper

Group B :

Sculptures [20 M]

Bas relief composition with moulding and casting in plaster of paris

OR

Design/Creative Handicrafts

a. Decorative design for various motifs in colour for textile

Or

b. Painting pottery with poster colour

Class XI Annual Examination Practical Topics

1. Geography

UNIT (ALLOTTED MARKS)	SUB-UNIT	PROPOSED TOPICS	PROPOSED QUESTION STRUCTURE
1. Maps and Scales [5]	✓✓ Types of Maps ✓✓ Drawing of Linear Scale	• Drawing of Linear Scale	• Drawing of Linear Scale [4] • VSAQ from scale [1]
2. Cartograms [5]	✓✓ Line graph ✓✓ Bar graph ✓✓ Flow and star diagram ✓ Drawing of Isolines - isotherms, isohyets and contours	• Flow diagram • Drawing of Isolines - isotherms, isohyets and contours	• Cartograms from proposed topics [4] • VSAQ from proposed topics [1]
3. Use of Weathering Instruments [5]	✓ i) Maximum and Minimum Thermometer. ✓✓ ii) Hygrometer. ✓✓ iii) Barometer.	• Maximum and Minimum Thermometer. • Hygrometer.	• Instrument from proposed topics [4] • VSAQ from proposed topics [1]
4. a) Weather Map Interpretation. b) Rainfall and Temperature Graph [5]	✓ Weather Map Interpretation. ✓ Rainfall and Temperature Graph	• Symbols of Weather Map Interpretation only. • Rainfall and Temperature Graph	• Rainfall and Temperature Graph [4] • Symbols of Weather Map [1]
5. Field Study and Viva. [5]	✓ i) Land use of any Local Area. ✓✓ ii) Traffic Flow. ✓✓ iii) Household Survey.	• Traffic Flow.	• Field Report [3] • Viva-voce [2]
6. Laboratory Note Book [5]	-----	• Laboratory Note Book [PREPARED ON THE BASIS OF PROPOSED TOPICS]	• Laboratory Note Book [3] • Viva-voce [2]

2. Physics

Evaluation Scheme:-

1) Two experiments one from each Section 8+8=16

2) Practical record(experiments) --04

3) Project with viva - 05

4) Viva on experiment 05

Total=30

Section A

1) To measure internal diameter and depth of a given beaker using Vernier Callipers and hence find its volume.

2) To measure volume of an irregular lamina using screw gauge.

3) To determine radius of curvature of a given spherical surface by a spherometer.

4) Using a simple pendulum plot L-T² graphs. Hence find the effective length of second's pendulum using graph.

Section -B

1) To find the force constant of a helical spring by plotting graph between load and extension.

2) To determine the surface tension of water by capillary rise method.

3) To find the speed of sound in air at room temperature using a resonance tube by two-resonance positions.

4) To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V.

Or

To study the relationship between the temperature of a hot body and time by plotting a cooling curve.

Class XI Annual Examination Practical Topics

3. Chemistry

1. Volumetric Analysis (Marks 10)
2. Salt Analysis (Marks 08)
3. Content based Experiments (Marks 06)
4. Class record or Viva-voce or Laboratory Performance in demonstration (Marks 06)
- A. Basic Laboratory Techniques (Any One) (Marks 03)
 - a) Cutting Glass Tube & Glass Rod
 - b) Bending a Glass Tube
 - c) Boring a Cork
- OR
- B. Purification of Chemical Substances
Crystallisation of Impure sample, any one of the following-
Alum, Copper sulphate
- C. Quantitative Estimation (Any One) (Marks 03)
 - a) Preparation of Standard Solution of Oxalic Acid
 - b) Preparation of Standard Solution of Sodium Carbonate
- D. Volumetric Analysis (Any One) (Marks 10)
 - a) Determination of Strength of a given solution of Sodium Hydroxide by titrating it against Standard Oxalic Acid Solution
 - b) Determination of strength of a given solution of Hydrochloric Acid by titrating it against Standard Sodium Carbonate Solution.
- E. Qualitative Analysis (Marks 08)
Determination of one Anion and one Cation in a given salt-

Cations: Pb^{2+} , Cu^{2+} , Al^{3+} , Fe^{3+} , Zn^{2+} , Ca^{2+} , Mg^{2+} , NH_4^+
Anions: CO_3^{2-} , SO_4^{2-} , NO_3^- , Cl^- , S^{2-} , PO_4^{3-}
- F. Class Record or Laboratory Performance in demonstration (Marks 03)
- G. Viva-voce (Marks 03)

4. Home Management & Family Resource Management

১. শিশুদের সংবেদন বিকাশকে উদ্দীপিত করার জন্য সামগ্রী প্রস্তুত করো।

২. বস্ত্রের পারিপাট্য।

৩. প্রাথমিক সেলাই – রানিং, হেমিং।

৪. প্র্যাং কালার চার্ট প্রস্তুতি এবং বর্ণ সমন্বয়।

৫. রোলার ব্যান্ডেজের প্রয়োগ।

৬. ত্রিকোন ব্যান্ডেজের প্রয়োগ।

1. Prepare materials for stimulating the sensory development of infants.
2. Finishing of cloth.
3. Basic stitches – Running, Hemming.
4. Preparing Prang's colour chart and colour harmony.
5. Application of Roller bandage.
6. Application of Triangular bandage.

5. Biological Science

Class XI Annual Examination Practical Topics

I. List of Experiments are to be done :

1. Study of osmosis by potato osmometer
2. Study of plasmolysis in epidermal peels (e.g. Rhoeo leaves)
3. Study of distribution of stomata on upper and lower surface of leaves
4. Comparative study of the rates of transpiration in the upper and lower surface of leaves
5. Test for the presence of sugar, starch, protein and fat. To detect them in suitable plant and animal materials
6. To test the presence of urea in urine
7. To detect the presence of albumin in urine
8. To detect the presence of bile salts in urine

II. Spotting are to be done :

1. Study of the specimens and identification with reasons — Spirogyra, Rhizopus, Mushroom,

Yeast, Liverwort, Moss, Fern, Pine.

2. Study of the specimens and identification with reasons — Amoeba, Hydra, Liver fluke, Ascaris, Leech, Earthworm, Prawn, Snail, Starfish, Shark, Rohu, Frog, Lizard, Pigeon, Rabbit.
3. Study of squamous epithelium, muscle fibres and mammalian blood smear through temporary / permanent slides.

Class XI Annual Examination Practical Topics

6. Nutrition

- Practice using weights and measures
- Cooking of cereals in various way and evaluation of results
- Milk and egg preparations

7. Computer Application

Discarded Topics in Computer Applications Practical

- VB Tool Box
- Programming Fundamentals
- Control System

8. Computer Science

Discarded Topics in Computer Science Practical

- C Programming using String , Structure , Pointer , 2D Array , 1D Array
- Commands of DOS , UNIX

9. Health & Physical Education

Full Marks : 60

Group-A : Formal activities : Marching, Bratachari and Callisthenics (any one) 20 Marks

Group-B :Atheletics (any one) 20 Marks

Group-C :Yogasana / Gymnastics / Team Game (Only individual skill test) (any one) 20 Marks

10. Agronomy

1. Acquaintance with common farm implements and their operations- Dismantling and assembling of mould-board plough, seed drill, wheel-hoe and rotary weeder.
2. Measurement and record of temperature & rainfall.
3. Seed testing and seed dressing.
4. Determination of soil texture by feel method.
5. Familiarity with different crop production operations (seedling raising, transplanting etc.) in the important crops consistent to the theory course.
6. Acquaintance with the cultivation of important crops.
7. Allotment of plots, for growing crops by individual.
8. Visit to important agricultural, horticultural, animal production farms.

11. Statistics

- Diagrammatic representation of statistical data
- Frequency distribution and its graphical representation
- Central tendency
- Dispersion

12. Psychology

- Biological Bases of behavior
- Measurement of immediate memory span using visual and auditory method
- Measurement of rate of learning
- Determining the effect of meaning on memorization capacity

Class XI Annual Examination Practical Topics

13. Music

Practical :

Group A : 21 M

Group B : 12 M

Group C : 12 M

Viva Voce : 10 M

Total : 55 M

Group A :

1. Khayal –

both Vilambit and Drut in Ektal and Trital respectively in anyone of the following Ragas ----

Yaman , Behag , Brindabani Sarang , Bhairab [8+6=14]

2. Anyone Dhrupad with dwigun laya in the above mentioned Ragas [7 M]

Group B :

Rabindra Sangeet [6+6]

a. Types – Baul , Western Styles

b. Talas – Chowtal , Sasthi , Dadra , Jhampak

c. Paryas – Puja , Prakriti , Swadesh

Group C :

Other types of music (may use harmonium)

a. Dwijendra Geeti or Rajanikantor gan [4 M]

b. Any one Regional Folk song or Bhajan [4 M]

c. Songs of Theatre or Song of Sachindeb Barman [4 M]

Viva Voce :

a. Notation Reading [4 M],b. Identification of Raga [3 M],c. Identification of Tala [3 M]

14. Visual Arts

Group A :

Painting [20 M]

Choose any one of the following items :

a. Painting a market scene or a village fair or other similar subject using pencil , water colour , oil pastels or poster colours on paper

b. Study of still life in colour

Drawing [15 M]

Choose any one of the following items :

a. Drawing from nature , flowers , animals , human figures etc with pencil , dry pastel or pen & ink

b. Drawing from copy book [Rupabali]

Group B :

Modeling [20 M]

Preparation of clay model images of animals , birds , fruits in round and relief forms

OR

Creative Handicrafts

a. Preparation of a mask with card board painted with poster colour

Or

b. Preparation of a book cover with hand written title page in poster colour