BIOLOGY (THEORY) (BIOLOGY FOR CLASS XII N C E R T)

First Term (April - July)	Unit - VI : Reproduction - April + June Unit - VII : Genetics & Evolution - July + Unit VIII : Biology in Human Welfare - August
Final Term (Aug-Nov)	Unit - IX : Biotechnology - Sep + Unit - X : Ecology Nov.

Question Pattern : 1 x 05 = 05, 2 x 05 = 10
4 x 01 = 04, 3 x 12 = 36, 5 x 3 = 15 Total : 70 Mks

BIOLOGY (PRACTICAL) (LAB MANUAL IN BIOLOGY FOR CLASS XII- ARYA BOOK)

List of Experiment

1. Study of pollen germination on a slide
2. Collect and study soil from different sites and study them for texture and moisture content.
3. Study the pH and Water holding capacity of soil. Correlate with the kinds of plants found in them.
4. Collect water from different water bodies around you and study them for pH clarity and presence of any living organisms.
5. Study the presence of suspended particulate matter in air at the two widely different sites.
6. Prepare a temporary mount of onion root tip to study nitosis.

Study/observation of the following (Spotting)

1. Study of flowers adapted to pollination by different agencies (weed.insect)
2. Study of pollen germination on a slide.
3. Study and identify stages of gamete development i.e. t.s.of testis and t.s. of oveary through permanent slide.
4. Study meiosis in onion bud cell or grass hopper testis through permanent slide.
5. Study stages of blastula through permanent slide.
6. Study of Mendelian inheritance using seeds of different colour/size of any plant.
7. Study prepared prediqree charts of genetic traits such as rolling of tongue, blood groups widow's peak, colour blindness.
8. Exercise on controlled pollination-Emasculation, tagging and bagging.
9. To identify common diseases causing organism like Ascaris, Antamoeba, Plasmodium, ringworm. Comment on symptoms of diseases that they cause through permanent slides on specimens.
10. Study plants and animals found in aquatic and Xerophytic conditions. Comment upon their adaptation & ecosystem.
12. Study analogous and homologous organs in various plants and animals.

Experiment (2) 14 Record 06 Viva 05 Project 05 **Total : Marks 30**

LOYOLA HIGH SCHOOL, PATNA
SYLLABUS FOR CLASS XII, 2017- 2018 : SCIENCE

MATHEMATICS (MATHEMATICS XII PARTS I, II N C E R T)

First Term
(April - July)

1 Matrices & Determinant **(April)**	(13)
2. Relations and functions, Binary Operations Inverse trigonometic functions **(May)**	(10)
3 Continuity and differentiability **(May)**	(04)
4. Vector & 3D Geometry **(July)**	(12)
5. Differentiation **(June)**	(04)
6. Applications of derivatives **(July)**	(04)
7. Integration **(July)**	(08)

Final Term
(Aug - Nov.)

8. Integration (Contd) **(August)**	(10)
9. Application of Derivatives (Contd) **(August)**	(06)
10. 3 D - Geometry (Contd) **(September.)**	(05)
11. Lenear Programming **(September)**	(06)
12. Probability **(October)**	(10)
13. Differential Equation **(November)**	(08)

Q.Pattern 01 x 04 = 04 06 X 06 = 36
Time : 3 hrs 02 x 08 = 16
F.M: 100 04 x 11 = 44 **Total : 100 Mks**

ENGLISH

	Flamingo	Vistas
First Term (April- July.)	Ch.1 : **(April)** Ch.2 : **(May)** Ch. 3 : **(June)** Ch. 4 & 5 **(July)** **Poetry** 1. My mother at Sixty six **(April)** 2. An Elementary School Classroom in a Slum **(May)** 3. Keeping Quiet **(June)** 4. A Thing of Beauty **(July)** **Novel - 1st half**	Ch. 2 - **(May)** Ch. 4 - **(June)** Ch. 5 - **(July)**
Final Term (Aug - Nov.)	Ch. 8 - **(August)** Poetry- Aunt Jennifer' s Tigers**(August)** **Novel - 2nd half**	Ch. 6 - **(August)** Ch. 7 - **(September)** Ch. 8 - **(October)**

Question Pattern
Time : 3 hrs
F.M : 100

1. Reading : Comprehension- 12 + 10 = 22 3. Textbooks - 28
   Notes + Summary - 5 + 3 = 08 **30** 4. Novel - 12 **40**
2. Writing Short Composition 04 , Factual Description 10
   Letter Writing 06 , Composition 10 **30**

PHYSICS (THEORY) (PHYSICS CLASS XII N C E R T)

First Term (April - July)

Unit
1. Electrostatics **(Apri-May)** **15**
2. Current Electricity **(June-July)**
3. Magnetic effecst of current and Magnetism **(July - August)** **16**
4. Electromagnetic Induction and Alternating current **(July-August)**

Final Term (Aug - Nov.)

Unit
5. Electromagnetic waves **(Aug-Sep)** **17**
6. Optics **(August-Sep.)**
7. Dual Nature of Matter and radiation **(Sep-Oct)** **10**
8. Atoms and Nuclei **(Sep-Oct)**
9. Electronic Devices **(Oct-Nov)** **12**
10. Communication System **(Oct-Nov)**

Question Pattern **1 x 5 = 05, 2 x 5 = 10, 3 x 12 = 36 , 4 x 1 = 04, , 5 x 3 = 15**
Total : Marks 70

PHYSICS (PRACTICAL)

SECTION A - Experiments :

1 To determine resistance per cm versus current of a given wire by plotting a graph of P.D. Versus Current
2. To find resistance of a given wire using meter- bridge and hence determine the specific resistance of its material.
3. To verify the laws of combination (Series) of resistances using a metre bridge.
4. Parallel
5. To compare E.M.F.'s of two given primary cells using potentiometer.
6. To determine the internal resistance of a given primary cell using potentiometer**.**
7**.** To determine resistance of a galvanometer by half deflection method and to find its figure of merit.

Activities :
As per list suggested in syllabus

SECTION B - Experiments

1. To find the value of v for different values of u in case of a concave mirror and to find the focal length.
2. To find the focal length of a convex lens by plotting graphs between u & v or between 1/u & 1/v
3. To find the focal length of a concave lens using a convex lens.
4. To determine the angle of minimum deviation for a given prism by plotting a graph between the angle of incidence and the angle of deviation.
5. To draw the characterestic curves of a zener diode and to determine its reverse break down voltage.
6. To find the focal length of a convex mirror, using a convex lens.
7. To find retractive index of a liquid by using (i) Concave mirror (ii) Convex lens and plane mirror.
8. To draw I-V characterestic curves of a p-n junction in forward bias and reverse blas.

Activities :
As per list suggested in syllabus

Project : As per list suggested in syllabus

Evaluation Scheme :Two experiment from each Section 8 x 2 = 16 mks
Practical Records : 6 mks
Project : 3 mks
Viva on experiment Projects - 5 mks
Total - 30 marks

CHEMISTRY (THEORY) (CHEMISTRY CLASS XII N C E R T)

First Term (April - July)

Unit - I Solid State **(May)**
Unit - II Solutions **(May)**
Unit - III Electrochemistry **(June)**
Unit IV Chemical Kinetics **(July)**
Unit V Surface Chemistry **(July)**
Physiscal Chemistry - 23

Final Term (Aug - Nov.)

Unit-VI General principle and process of Isolation of Element **(August)**
Unit- VII P-block elements **(Aug)**
Unit- VIII d & f block elements**(Sept.)**
Unit- IX Co-ordination complexes**(Sep)**
Unit- X Haloalkane and Haloarenes **(Oct.)**
Unit - XI Alcohols, Phenols and Ethers **(Oct)**
Unit - XII Aldehyde, Ketones and Carboxylic acid **(Nov.)**
Unit- XIV Polymers **(Nov.)**
Unit - XIII Organic compounds containing Nitrogen **(Nov.)**
Unit - XV Biomolecules **(Nov.)**
Unti - XVI Chemistry in Everyday life**(Nov)**

In Organic Chemistry - 19
Organic Chemistry - 28

Question Pattern : 1 x 05 = 05 , 3 x 12 = 36 , 5 x 3 = 15
2 x 05 = 10, 4 x 1 = 04
Total : Marks 70

CHEMISTRY (PRACTICAL) (LAB MANUAL IN CHEMISTRY FOR CLASS XII ARYA BOOK)

Section A. Volumetric Analysis : -
1. Determination of Concentration / Molarity of KMn04 by titrating it against a standard solution of Oxalic acid. **(July)**
2. Determination of Concentration / Molarity of KMn04 by titrating it against a standard solution of Mohr's salt. **(July)**

Section B. Salt Analysis :-
3. Identification of one Cation and one anion in the given Salt. **(Aug + Sep.)**

Section C. Content Based Experiments :-
4. Test of the Functional groups present in given organic compounds. **(Oct + Nov.)**
5. Preparation of β -Naphthalein dye & Iodoform.

Section D. Project : - **Section E. Record and Viva :-**

Question Pattern : (Prqctical) :-

a. Volumetric Analysis	08	b. Salt Analysis	08
c. Content Based Experiments	06	d. Record & Viva	04
Total : Marks 30		e. Project	04

INFORMATICS PRACTICES (THEORY)
Send Up March -Aug
Chapter 1 Computer Networking **(April-May)** Chapter 2 Open source Concepts **(April - May)**
Chapter 3 Java Revision-I **(June)** **(**Programming fundamentals)
Chapter 4 Java Revision -II **(July)** (Gui Swing Controls) Chapter - 5 Java Revision - III (Class & Objects) Chapter - 6 Java Classes and Libraries
Chapter - 7 Concept of inheritance **(August)** Chapter - 8 GUI Dialogs & Tables Chapter - 9 Database Connectivity
Chapter - 10 Web Application Developments **(September)** Chapter - 11 HTML-I (Basic Tags) Chapter - 12 HTML-II (Advance Tags) Chapter - 13 Introduction To XML
Chapter - 14 MYSQL Revision Tour & Transactions **(October)** Chapter - 15 Grouping & Tables Joins Chapter - 16 Tables and Integrity Constraints Chapter - 17 IT- Applications.
Revision, Project Work **(November)**

INFORMATICS PRACTICES (PRACTICAL)	
Sec.Term Aug -Dec.	
	Netbeans : Classes and Libraries, Controlling Access to Members of a Class-Access Specifiers, Java Liberories, Working with Storing - Creating Storings, Creating String Buffer, Math() Functions, Packages, Concept of Inheritance, Need for Inheritance, Different Forms of Inheritance, Derived / Sub and Base/ Super Classes, Function overloading, Inheritance and Constructors, Abstract Classes, Interfaces, Dialoge in Java, Tables in Java, Database connectivity in MySql. **Web Application Development :** Web Browser, Web Server, Web Address and URL, Communicating with Web Server, Client Server Communication, Lists in HTML, Tables in HTML, HTML Forms, XML, XML vs other Technologies, Features of XML, Working in XML, Logical Structure of XML Document.
	MySql : Concept of Database Transaction, Transaction Control Commands, MySql, Aggregate or Group Functions, Types of SQL Functions, GROUP By Joins - Using Table Aliases, Additional Search conditions in Joins, Joining More than Two Tables, Equi-Join, Non-Equi Join, Natural Join, Joining using JOIN clauses of SQL SELECT. **IT Applications :** Front - and Database Connectivity, Project / Application preperation. Practical Assignments of Al the Chapters will be provided in Class only.
Question Pattern	**Theory : 70 Mks** Section A - Networking and Open Standards - 10 Section B - Programming - 25 Section C - Relational Database Management System - 30 Section D - IT Application - 05 **Practical : 30 Mks** Problem Solving Using Java - 10 SQL Queries - 05 Practical Record File - 06 Project file - 05 Viva Voce - 04

BIOLOGY (THEORY) (BIOLOGY FOR CLASS XII N C E R T)	
First Term (April - July)	Unit - VI : Reproduction Unit - VII : Genetics & Evolution Unit VIII : Biology in Human Welfare
Final Term (Aug-Nov)	Unit - IX : Biotechnology Unit - X : Ecology
Question Pattern : 1 x 5 = 05, 2 x 10 = 20 3 x 10 = 30, 5 x 3 = 15 Total : 70 Mks	

BIOLOGY (PRACTICAL) (LAB MANUAL IN BIOLOGY FOR CLASS XII- ARYA BOOK)

List of Experiment

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3. Study the pH and Water holding capacity of soil. Correlate with the kinds of plants found in them.
4. Collect water from different water bodies around you and study them for pH clarity and presence of any living organisms.
5. Study the presence of suspended particulate matter in air at the two widely different sites.
6. Study of plant population density by quadrat mehtod.
7. Study of plant population frequency by quadrat method

Study/observation of the following (Spotting)

1. Study of flowers adapted to pollination by different agencies (weed.insect)
2. Study of pollen germination on a slide.
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Experiment (2) 14 Record 06 Viva 05 Project 05 **Total : Marks 30**