

**D.A.V Public Schools, Jharkhand Zone- B**

**Month-wise distribution of Syllabus**

**Subject- English Class- XI Session- 2018-19**

Month	Book Hornbill	Book Snapshot	Grammar	Writing	Reading Section and ASL
June	The Portrait of a Lady	The Summer of the Beautiful White Horse	Determiners	Notice	
July	A Photograph, We're not Afraid to Die... If We Can All Be Together	The Address	Tenses Active and Passive Voice	Advertisement: Display and Classified	Note Making and Summary Writing
August	Discovering Tut: The Saga Continues, The Laburnum Top	Ranga's Marriage	Modals, Clauses, and Reported Speech	Formal Letters, Poster Writing, Article and debate Writing, Report Writing	ASL, Note Making and Summary Writing
September	The Voice of the Rain	Revision	Revision Error correction, Missing word, Sentence Reordering	Revision	ASL
October	Landscape of the Soul, The Ailing Planet: The Green Movement's Role	Albert Einstein at School	Reported Speech	Job Application, Poster Writing	
November	The Browning Version	Mother's Day	Clauses	Factual Description	Vocabulary
December	Childhood, The Adventure	The Ghat of the only World, Birth	<b>Revision</b> Error correction, Missing word, Sentence Reordering	Report Writing and Factual Description	Vocabulary
January	Silk Road, Father to Son	The Tale of Melon City	Revision	Revision	ASL
February	Revision	Revision	Revision	Revision	ASL

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**DAV Public Schools, Ranchi Zone**  
**Syllabus , Session: 2018-19, Sub: Hindi**  
**Class: XI**

माह	पाठ
जून	नमककादारोगा, पद्य—कबीर
जुलाई	मिर्याँनसीरुद्दीन, अपू के साथढाईसाल मीरा, रामनरेश त्रिपाठी, भारतीय गायिकाओंमेंबेजोड़: लतामंगेशकर
अगस्त	विदाईसंभाषण, सुमित्रानन्दनपंत गलतालोहा, रिपोर्टफीचर,आलेख
सितम्बर	निबंध, कार्यालयीय पत्र पुनराभ्यास एवंपरीक्षा स्पीतिमेंबारिश, घर की याद
अक्टुबर	रजनी जामुनकापेड़, चंपाकाले—कालेअच्छरनहींचीन्हती
नवम्बर	भारत—माता, गजल, राजस्थान की रजतबूँदें
दिसम्बर	आत्माकाताप, हेभूख! मतमचल..... हे! मेरेजूही के फूलजैसे.....
जनवरी	सबसे खतरनाक आलोआँधारि आओमिलकरबचाएं
फरवरी / मार्च	पुनरावृत्ति + परीक्षा

अपठितगद्यांश + पद्यांश

संचार—माध्यम

**D.A.V PUBLIC SCHOOLS, RANCHIZONE**

**SYALLABUS OF CLASS 11<sup>TH</sup> MATHS (2018-19)**

S.No	CHAPTER	NO.OF PERIOD /MONTHS
1.	<b>TRIGONOMETRY:-</b> Measurement of angles, Relation between central angle and arc of circle ,Definition of trigonometric functions with the help of unit circle, Sign of trigonometric functions, Domain and range of trigonometric functions and their graph , Trigonometric functions (compound, transformation, multiple submultiple angles) Trigonometric equations general and principal solutions solution of triangles [sine and cosine rule ] Deducing the T Identities Napier’s Analogy.	20/JUNE-JULY
2.	<b>Complex Number and quadratic equation:-</b> Algebra of complex numbers ,The Modulus and conjugate of a complex Number , Square root of complex number , Argand Plane and Polar Representation , Quadratic equation .	8/JULY
3.	<b>PRINCIPLE OF MATHEMATICAL INDUCTION:-</b> Process of proof by induction, motivating the application of method by looking at natural numbers	06/JULY
4.	<b>LINEAR INEQUALITY :-</b> Algebraic solution of linear inequalities in one variable and their representation of number line. Graphical solution of linear inequalities in two variables.	8/AUG
5.	<b>SEQUENCE AND SERIES:-</b> Arithmetic progression, nth term , sum of n terms, Geometric Progressions, nth term ,sum of n terms, Arithmetic mean and Geometric mean ,Relation between A.Mand G.M ,Sum to n terms of special series ,Sum of infinite series of G.P. Revision of SA-1.	15/AUG
6.	<b>SETS:-</b> Sets and their representation types of sets, subsets , proper subsets Power sets, universal sets, Venn diagram union and intersection of sets . Difference of sets , compliment of a set , Demorgan’s law.	10/SEPT-OCT
7.	<b>RELATIONS AND FUNCTIONS :-</b> Ordered pairs ,Cartesian product of sets ,Definition of relation ,domain ,range and co- domain of relation . Definition of function , types of functions, domain, range , co-domain of the functions, graph of functions, Sum , difference ,product and quotient of two functions	10/OCT
8.	<b>Limits and derivatives :-</b> Limit of a function ,indeterminate form , existence of limit. Derivatives of function by first principle method,Derivatives of sum, difference,product and quotient of functions.Derivatives of polynomial and trigonometric functions. Derivatives of logarithmic & exponential functions .	10/NOV
09.	<b>PERMUTAION AND COMBINATION :-</b> Fundamental principle of counting ,Factorial notation, Different types of permutations and combinations, properties of combinations, simple applications ,word problem based on permutations and combinations	06/NOV
10.	<b>BINOMIAL THEOREM:-</b> Introduction of Binomial theorem for positive integral indices, Pascal’s triangle, general and middle term ,rth term from beginning,rth term from end, coefficient of independent term in the expansion.	6/NOV-DEC

11.	<b>STRAIGHT LINE</b> :-Introduction of 2D,Shifting of origin, Slope of a line and angle between two lines. Various form of equations of a line: parallel to axes, point-slope form, slope –intercept form, two point form, intercept and normal form, General equation of a line . Equation of family of lines passing through the point of intersection of two lines ,distance from a point to a line. Distance between two parallel lines and conditions of concurrency ,General equation of intersection of two lines.	10/ DEC.
12.	<b>CONIC SECTION</b> :-Standard form of equation of circle ,parabola, ellipse, hyperbola and application of conic section.	08/ DECEMBER
13.	<b>INTRODUCTION TO THREE DIMENSIONAL GEOMETRY :-</b> Co-ordinate axes and co-ordinate planes in three dimensions, Co-ordinate of a point, distance between two points, section formula.	03/JAN.
14.	<b>PROBABILITY</b> :- Random variable ,Sample space, Events, Types of Events, Axiomatic(set theoretic) approach to probability, Prob. of not , or complementary events.	05/JAN.
15.	<b>STATISTICS</b> :-Measure of dispersion: mean deviation ,variance, standard deviation of grouped/ungrouped data, Analysis of frequency distribution with equal means but different variance .	05/JAN
16.	<b>Mathematical Reasoning</b> :- Statement , Negation of statement , Compound statement , contrapositive and converse , Quantifier , Implication .	03/JAN.

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**BLUE PRINT OF FIRST SUMMATIVE EXAMINATION****CLASS XI - MATHEMATICS ( 2018-19)**

<b>CHAPTER</b>	<b>1 MARK</b>	<b>2 MARKS</b>	<b>4 MARKS</b>	<b>6 MARKS</b>	<b>No. of Ques./Total marks</b>
Trigonometric function	<b>1</b>	2	<b>3(OR)</b>	<b>2</b>	<b>08(29)</b>
Complex Nos. Quadratic equation	<b>1</b>	2	<b>2</b>	-	<b>05(13)</b>
Principle of mathematical induction	-	-	<b>1</b>	<b>1</b>	<b>2(10)</b>
Linear in equalities	<b>1</b>	2	<b>2</b>	<b>1</b>	<b>06(19)</b>
Sequence & Series	<b>1</b>	2	<b>3(OR)</b>	<b>2</b>	<b>08(29)</b>
<b>TOTAL QUESTIONS</b>	<b>04</b>	<b>08</b>	<b>11</b>	<b>6</b>	<b>29(100)</b>



# TERM AND MONTH-WISE SPLIT UP SYLLABUS 2018-19

## SUBJECT: PHYSICS

### Prescribed Text Books

1. Physics for Class-XI (NCERT)
2. Laboratory Manual Physics – Class XI

<b>TERM I</b>		
<b>Month</b>	<b>Contents</b>	<b>Wt.</b>
<b>JUNE</b>	<b><u>Unit I: Physical World and Measurement</u></b> Physics - scope and excitement; nature of physical laws; Physics, technology and society. Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; Errors in measurements, significant figures. Dimensions of physical quantities, dimensional analysis and its applications.	<b>23</b>
<b>JULY</b>	<b><u>Unit II: Kinematics</u></b> Frame of reference. Motion in a straight line: Position-time graph, speed and velocity. Uniform and non-uniform motion, speed and velocity - average and instantaneous Uniformly accelerated motion, velocity-time graph and position-time graph, equations for uniformly accelerated motion (graphical treatment only). Simple introduction to elementary concepts of differentiation and integration for describing motion. Scalar and vector quantities: vectors, notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Position and displacement vectors, relative velocity. Unit vector; Resolution of a vector in a plane - rectangular components. Scalar and vector product of vectors. Motion in a plane. Cases of uniform velocity and uniform acceleration. Projectile motion, uniform circular motion.	
<b>Aug</b>	<b><u>Unit III: Laws of Motion</u></b> Intuitive concept of force. Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, rolling friction. Uniform circular motion. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road).	
	<b><u>Unit IV: Work, Energy and Power</u></b> Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power.	
<b>September</b>	Notion Potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies); non-conservative forces: Motion in a vertical circle, elastic collisions and elementary idea of inelastic collisions (in one and two dimensions)	
<b>Revision of 1<sup>st</sup> SUMMATIVE EXAMINATION</b>		
<b>TERM II</b>		
<b>October</b>	<b><u>Unit V: Motion of System of Particles and Rigid Body</u></b> Centre of mass of a two-particle system, Centre of mass of rigid body. Centre of mass of uniform rod. Momentum conservation and centre of mass motion. Vector product of vectors; moment of a force, torque, angular momentum, conservation of angular momentum with some examples. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion (cont.)	<b>17</b>
<b>November</b>	<b><u>Unit V: Motion of System of Particles and Rigid Body</u></b> comparison of linear and rotational motions; Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorem and their applications.  <b><u>Unit VI: Gravitation:</u></b> Keplar's Laws of planetary motion. The universal law of gravitation; Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy; gravitational potential; Escape velocity, orbital velocity of a satellite, Geostationary satellites.	

<p><b>December</b></p>	<p><b><u>Unit VII: Properties of Bulk Matter :</u></b>  Elastic behaviour, stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity. Poisson's ratio, elastic energy.  Pressure due to fluid column, Pascal's law and its applications (hydraulic lift and hydraulic brakes), Effects of gravity on fluid pressure, Viscosity, Stoke's Law, Terminal Velocity, Reynold's number, Streamline and turbulent flow, critical velocity, Bernoulli's theorem and its applications.  Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension, ideas to drops, bubbles and Capillary rise.  Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion, specific heat capacity; Cp &amp; Cv, calorimetry; change of state, Latent heat capacity.  Heat transfer : Conduction, convection and radiation; qualitative ideas of black body radiation, green house effect, thermal conductivity, Newton's law of cooling. Wein's displacement law, Stefan's law.  <b><u>Unit – VIII: Thermodynamics</u></b>  Thermal equilibrium and definition of temperature (zeroth law of thermodynamics), Heat, work and internal energy; First law of thermodynamics, isothermal and adiabatic processes, Second Law of thermodynamics. Reversible and irreversible processes. Heat engines and refrigerators.</p>	<p><b>20</b></p>
<p><b>January</b></p>	<p><b><u>Unit- IX: Behaviour of Perfect Gas and Kinetic Theory:</u></b>  Equation of state of a perfect gas, work done on compressing a gas.  Kinetic theory of gases – assumptions, concept of pressure, kinetic energy and temperature, rms speed of gas molecules, degrees of freedom, law of equipartition of energy (statement only) and application of specific heat capacities of gases, concept of mean free path. Avogadro's number.</p>	
	<p><b><u>Unit- X : Oscillations and Waves:</u></b>  Periodic motion - period &amp; frequency, displacement as a function of time and periodic functions, Simple harmonic motion (SHM) and its equation Phase, Oscillation of a spring restoring force and force constant; Energy in S.H.M (Kinetic and potential energies); Simple pendulum – derivation of expression for its time period; Free and forced and damped oscillations (qualitative ideas only), Resonance. Wave motion, Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave, principle of superposition of waves.  Reflection of waves, standing waves in string and organ pipes, fundamental mode and harmonics. Beats, Doppler effect .</p>	<p><b>10</b></p>
<p><b>February</b></p>	<p>X Ray Optics</p>	
<p><b>Revision and Annual Examination</b></p>		

**BLUE PRINT-1<sup>ST</sup> SUMMATIVE EXAMINATION**  
**Class : XI**  
**Physics**

Time: 3 Hrs.

Max. Marks : 70

**I. Weightage to content/subject units:**

Unit No.	Title	Marks
Unit I	Physical World & Measurement	15
Unit II	Kinematics	20
Unit III	Laws of Motion	20
Unit IV	Work, Energy & Power	15
	Total	70

**II. Weightage to form of Questions:**

S.No.	Form of Questions	Marks for each question	No. of questions	Total Marks
1.	Long Answer Type (LA)	5	03	15
2.	Value Based Question	4	01	04
3.	Short Answer (SA I)	3	12	36
4.	Short Answer (SA II)	2	05	10
5.	Very Short Answer (VSA)	1	05	05
	Total		26	70

**III. Scheme of Options:**

1. There will be no overall option.
2. Internal choices in five questions have been given as follows:
  - a. Any one question in two-mark questions.
  - b. Any one question in three-mark questions.
  - c. All the three questions in five-mark questions.

**IV. Numericals:**

Weightage of nearly 15 marks in total would be assigned to numericals.

**V. Weightage to difficulty level of questions:**

S.No.	Estimated difficulty level	Percentage	Marks
1.	Easy	(nearly) 15%	11
2.	Average	70%	49
3.	Difficult	(nearly) 15%	10

A weightage of nearly 20% has been assigned to questions which test higher order thinking skills of students.

**BLUE PRINT-2<sup>ND</sup> SUMMATIVE EXAMINATION**

AS PER DAV Centre for Academic Excellence, CMC, New Delhi

**DAV PUBLIC SCHOOLS, RANCHI ZONE****Blue Print(Term-I)****Chemistry XI**

<b>Unit</b>	<b>Content</b>	<b>VSA</b>	<b>SA 1</b>	<b>SA 2</b>	<b>VBQ.</b>	<b>LA</b>	<b>Total</b>
1.	Some basic concept in Chemistry		2(1)	3(2)			08
2.	Structure of atoms	1(2)		3(3)		5(1)	16
3.	Classification of Elements & Periodicity in properties		2(2)		4(1)		08
4.	Chemical bonding and molecular structure	1(2)		3(3)		5(1)	16
5.	States of Matter	1(1)	2(1)	3(3)			12
6.	Thermodynamics		2(1)	3(1)		5(1)	10
	<b>Total</b>	5×1	5×2	12×3	1×4	3×5	70

**CLASS – XI  
SUBJECT - CHEMISTRY**

<b>Unit</b>	<b>Content</b>	<b>Weightage</b>
1.	Some Basic Concept of Chemistry	08
2.	Structure of atom	16
3.	Classification of element and periodicity in properties	08
4.	Chemical bonding and molecular structure	16
5.	States of Matter	12
6.	Thermodynamics	10

**DAV PUBLIC SCHOOLS, RACHI ZONE**  
**Syllabus (Class: XI)**

Month	Unit	Content	Periods	Marks
June 18	1.	Some Basic Concept of Chemistry	12	12
July 18	2.	Structure of atom	14	
July 18	3.	Classification of elements and periodicity	06	20
July 18	4.	Chemical Bonding and molecular structure	04	
Aug 18	4.	Chemical bonding and molecular structure	10	
Aug 18	5.	State of matter	08	
Aug 18	6.	Thermodynamics	06	
Sept 18	6.	Thermodynamics	06	
Sept 18	7.	Chemical Equilibrium	06	
Oct 18	7.	Chemical Equilibrium	08	
Oct 18	8.	Redox reaction	05	20
Nov 18	9.	Hydrogen	05	
Nov 18	10.	S- Block Element	08	
Nov 18	11.	P- Block Element	08	
Dec 18	12.	Organic chemistry- Some basic principle and technique	14	18
Dec 18	13.	Hydrocarbon	06	
Jan 19	13.	Hydrocarbon	10	
Jan 19	14.	Environmental chemistry	04	
		<b>Total</b>	<b>140</b>	

**DAV PUBLIC SCHOOLS, RANCHI ZONE**

**Syllabus-Class-XI (2018-19)**

**BIOLOGY**

Month	Chapter	Month	Chapter
June-July	<ul style="list-style-type: none"><li>• The living world</li><li>• Biological classification</li><li>• Plant kingdom</li><li>• Animal kingdom</li></ul>	October	<ul style="list-style-type: none"><li>• Transport in plants</li><li>• Mineral nutrition</li><li>• Photosynthesis in higher plants</li></ul>
August	<ul style="list-style-type: none"><li>• Morphology of flowering plant</li><li>• Anatomy of flowering plant</li><li>• Structural organization in Animals</li></ul>	November	<ul style="list-style-type: none"><li>• Respiration in plants</li></ul>
September	<ul style="list-style-type: none"><li>• Cell The unit of life</li><li>• Biomolecules</li><li>• Cell cycle &amp; cell division</li></ul>	December	<ul style="list-style-type: none"><li>• Digestion &amp; absorption in Human beings</li><li>• Breathing &amp; exchange of gases</li><li>• Body fluids and Circulation</li><li>•</li><li>•</li><li>•</li><li>•</li></ul>
		January	<ul style="list-style-type: none"><li>• Locomotion and movements</li><li>• Neural control &amp; co-ordination</li><li>• Chemical control &amp; integration</li></ul>

**Weightage of First term**

- Unit 1 (Diversity in the living world) - 20 Marks
  - Unit 2 (Structural Organisation in plants & animals) - 20 Marks
  - Unit 3 (Cell: Structure and functions) - 30 Marks
- Total - 70 Marks**

**Weightage of Second term( as per DAV CAE)**

- Diversity in the living world - 07 Marks
  - Structural Organisation in plants and animals - 11 Marks
  - Cell: Structure & functions - 15 Marks
  - Plant Physiology - 17 Marks
  - Human Physiology - 20 Marks
- Total - 70 Marks**

**Blue Print of First term**

<b>Chapter</b>	<b>1 Mark (VSA)</b>	<b>2Marks (SA I)</b>	<b>3Marks (SA II)</b>	<b>4Marks (VBQ)</b>	<b>5 Marks (LA)</b>	<b>Total Marks</b>
The Living World	1	1				3
Biological Classification	1		1			4
Plant Kingdom		1	1			5
Animal Kingdom	1		1	1		8
Morphology of Flowering Plants			2			6
Anatomy of Flowering Plants	1		2			7
Structural Organisation In Animals	1		2			7
Cell: The Unit Of Life		1	1		1	10
Biomolecules		1	1		1	10
Cell Cycle & Cell Division		1	1		1	10
<b>Total Questions</b>	<b>5</b>	<b>5</b>	<b>12</b>	<b>1</b>	<b>3</b>	<b>70</b>

**D.A.V PUBLIC SCHOOLS RANCHI ZONE****SYLLABUS : ECONOMICS CLASS – XI (2018-19)**

Theory: 80 MARKS

Project: 20 Marks

UNITS		S.A.1	ANNUAL
<b>PART A</b>	<b>Introductory Microeconomics</b>		
	Introduction	4	8
	Consumer's Equilibrium and Demand	13	32
	Producer Behaviour and Supply	13	32
	Forms of Market and Price Determination under perfect competition with simple applications	10	28
		40	100
<b>Part B</b>	<b>Statistics for Economics</b>		
	Introduction	13	07
	Collection, Organisation and Presentation of Data		27
	Statistical Tools and Interpretation Statistical Tools and Interpretation	27	66
		40	100
<b>PART C</b>	<b>Project work</b>	20	20

**JUNE 18**

## Unit 1: Introduction

Meaning of microeconomics and macroeconomics; positive and normative economics What is an economy? Central problems of an economy: what, how and for whom to produce; concepts of production possibility frontier and opportunity cost

**JULY 18**

## Part B: Statistics for Economics

## Unit 1: Introduction

What is Economics? Meaning, scope, functions and importance of statistics in Economics

## Unit 2: Consumer's Equilibrium and Demand

Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis. Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium. Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand – percentage-change method.

**AUGUST 18**

## Unit 2: Collection, Organisation and Presentation of data

Collection of data - sources of data - primary and secondary; how basic data is collected, with concepts of Sampling; Sampling and Non-Sampling errors; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation. Organisation of Data: Meaning and types of variables; Frequency Distribution. Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data: (i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and ogive) and (iii) Arithmetic line graphs (time series graph).

Unit 3: Statistical Tools and Interpretation

Measures of Central Tendency- mean (simple and weighted)

### **SEPTEMBER 18**

Summative assessment -1

Unit 3 median and mode

Unit 3: Producer Behaviour and Supply

Meaning of Production Function – Short-Run and Long-Run Total Product, Average Product and Marginal Product.

### **OCTOBER 18**

Returns to a Factor Cost: Short run costs - total cost, total fixed cost, total variable cost; Average cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationships. Revenue - total, average and marginal revenue - meaning and their relationship.

### **NOVEMBER 18**

UNIT 3 Measures of Dispersion - absolute dispersion (range, quartile deviation, mean deviation and standard deviation); relative dispersion (co-efficient of range, co-efficient of quartile-deviation, co-efficient of mean deviation, co-efficient of variation); Lorenz Curve: Meaning, construction and its application.

UNIT 3 Producer's equilibrium-meaning and its conditions in terms of marginal revenue-marginal cost. Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - percentage-change method.

### **DECEMBER 18**

UNIT 3 Correlation – meaning and properties, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation.

Unit 4: Forms of Market and Price Determination under Perfect Competition with simple applications Perfect competition monopoly, monopolistic competition, oligopoly - their meaning and features.

### **JANUARY 19**

Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply

Simple Applications of Demand and Supply: Price ceiling, price floor.

Introduction to Index Numbers - meaning, types - wholesale price index, consumer price index and index of industrial production, uses of index numbers; Inflation and index numbers.

Part C: Developing Project in Economics 20

The students may be encouraged to develop projects, as per the suggested project guidelines. Case studies of a few organisations / outlets may also be encouraged. Under this the students will do only ONE comprehensive project using concepts from both part A and part B. Some of the examples of the projects are as follows (they are not mandatory but suggestive): (i) A report on demographic structure of your neighborhood. (ii) Changing consumer awareness amongst households. (iii) Dissemination of price information for growers and its impact on consumers. (iv) Study of a cooperative institution: milk cooperatives, marketing cooperatives, etc. (v) Case studies on public private partnership, outsourcing and outward Foreign Direct Investment. (vi) Global warming. (vii) Designing eco-friendly projects applicable in school such as paper and water recycle. The idea behind introducing this unit is to enable the students to develop the ways and means by which a project can be developed using the skills learned in the course. This includes all the steps involved in designing a project starting from choosing a title, exploring the information relating to the title, collection of primary and secondary data, analysing the data, presentation of the project and using various statistical tools and their interpretation and conclusion.

## FEBRUARY 19

Revision.

BLUE PRINT (2018-19)

### CLASS XI (FIRST TERM)

PART A	1marks	3 marks	4 marks	6marks
Unit 1	1	1		1
Unit 2	3	1	3	2
	<b>1x4=4</b>	<b>3x2=6</b>	<b>4x3=12</b>	<b>6x3=18</b>
Part B	1marks	3 marks	4 marks	6marks
Unit 1	1	1		1
Unit 2	3	1	2	1
Unit 3			1	1
	<b>1x4=4</b>	<b>3x2=6</b>	<b>4x3=12</b>	<b>6x3=18</b>

# Computer Science (New)

CLASS-XI

Code No. 083

(Optional for the academic year 2018-19 and mandatory for the academic year 2019-20 onwards)

## 1. Prerequisites

No major prerequisites are required for this course other than basic Mathematical skills. However, it will be helpful if the student has a basic knowledge of Computer Applications.

## 2. Learning Outcomes

1. Develop basic computational thinking. Learn how to reason with variables, state transitions, conditionals, and iteration.
2. Understand the notion of data types, and higher order data structures such as lists, tuples, and dictionaries.
3. Appreciate the notion of an algorithm, and understand its structure, including how algorithms handle corner cases.
4. Develop a basic understanding of computer systems - architecture, OS, mobile and cloud computing.
5. Learn basic SQL programming.
6. Learn all about cyber safety.

## 3. Distribution of Marks

Unit No.	Unit Name	Marks
1.	Programming and Computational Thinking - 1	35
2.	Computer Systems and Organisation	10
3.	Data Management - 1	15
4.	Society, Law and Ethics - 1	10
5.	Practical	30
	Total	100

### 4.1 Unit 1: Programming and Computational Thinking (PCT-1) (80 Theory + 70 Practical)

- Familiarization with the basics of Python programming: a simple "hello world" program, process of writing a program, running it, and print statements; simple data-types: integer, float, string
- Introduce the notion of a variable, and methods to manipulate it (concept of L-value and R-value even if not taught explicitly)
- Knowledge of data types and operators: accepting input from the console, assignment statement, expressions, operators and their precedence.
- Conditional statements: if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, and divisibility.
- Notion of iterative computation and control flow: for, while, flowcharts, decision trees and pseudo code; write a lot of programs: interest calculation, primarily testing, and factorials.
- Idea of debugging: errors and exceptions; debugging: pdb, break points.
- Lists, tuples and dictionary: finding the maximum, minimum, mean; linear search on list/tuple of numbers, and counting the frequency of elements in a list using a dictionary. Introduce the notion of accessing elements in a collection using numbers and names.
- Sorting algorithm: bubble and insertion sort; count the number of operations while sorting.
- Strings: compare, concat, substring; notion of states and transitions using state transition diagrams.

**4.2. Unit 2: Computer Systems and Organisation (CSO)****(20 Theory + 6 Practical)**

- Basic computer organisation: description of a computer system and mobile system, CPU, memory, hard disk, I/O, battery, power.
- Types of software: application, OS, utility, libraries.
- Language of Bits: bit, byte, MB, GB, TB, and PB.
- Boolean logic: OR, AND, NAND, NOR, XOR, NOT, truth tables, De Morgan's laws
- Information representation: numbers in base 2, 8, 16, unsigned integers, binary addition
- Strings: ASCII, UTF8, UTF32, ISCII (Indian script code)
- Execution of a program: basic flow of compilation – program → binary → execution
- Interpreters (process one line at a time), difference between a compiler and an interpreter
- Running a program: Notion of an operating system, how an operating system runs a program, idea of loading, operating system as a resource manager.
- Concept of cloud computers, cloud storage (public/private), and brief introduction to parallel computing.

**4.3. Unit 3: Data Management (DM-1)****(30 Theory+ 24 Practical)**

- Relational databases: idea of a database and the need for it, relations, keys, primary key, foreign key; use SQL commands to create a table, keys, foreign keys; insert/delete an entry, delete a table.
- SQL commands: select, project, and join; indexes, and a lot of in-class practice.
- Basics of NoSQL databases - Mongo DB.

**4.4. Unit 4: Society, Law and Ethics (SLE-1) - Cyber safety****(10 Theory)**

- Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying
- Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules.
- Safely accessing web sites: adware, malware, viruses, Trojans
- Safely communicating data: secure connections, eavesdropping, phishing and identity verification.

**5. Practical**

S.No.	Unit Name	Marks (Total=30)
1.	<b>Lab Test (12 marks)</b>	
	Python program (60% logic + 20% documentation + 20% code quality)	<b>8</b>
	SQL program (at least 4 queries)	<b>4</b>
2.	<b>Report File + viva (10 marks)</b>	
	Report file: Minimum 20 Python programs and 8 SQL commands	<b>7</b>
	Viva voce (based on the report file)	<b>3</b>
3.	Project (that uses most of the concepts that have been learnt) (See CS-XII for the rules regarding the projects).	<b>8</b>

**5.1. Programming in Python:** At least the following Python concepts should be covered in the lab sessions: expressions, conditionals, loops, list, dictionary, and strings. The following are some representative lab assignments.

- Find the largest and smallest numbers in a list.
- Find the third largest number in a list.
- Test for primality.
- Find whether a string is a palindrome or not.
- Given two integers  $x$  and  $n$ , compute  $x^n$ .
- Compute the greatest common divisor and the least common multiple of two integers.
- Test if a number is equal to the sum of the cubes of its digits. Find the smallest and largest such numbers.

**5.2. Data Management: SQL Commands** At least the following SQL commands should be covered during the labs: create, insert, delete, select, and join. The following are some representative assignments.

- Create a student table with the student id, name, and marks as attributes where the student id is the primary key.
- Insert the details of a new student in the above table.
- Delete the details of a particular student in the above table.
- Use the select command to get the details of the students with marks more than 80.
- Create a new table (name, date of birth) by joining two tables (student id, name) and (student id, date of birth).
- Create a new table (order ID, customer Name, and order Date) by joining two tables (order ID, customer ID, and order Date) and (customer ID, customer Name, contact Name, country).

# Computer Science

CLASS-XII  
Code No. 083

Optional for the academic year 2019-20 and mandatory for the academic year 2020-21 onwards

## 1. Prerequisites

Computer Science- Class XI

## 2. Learning Outcomes

1. Understand the concept of functions and recursion.
2. Learn how to create and use Python libraries.
3. Learn file handling.
4. Learn about the concept of efficiency in algorithms and computing in general.
5. Learn basic data structures: lists, stacks, and queues.
6. Get a basic understanding of computer networks: network stack, basic network hardware, basic protocols, and basic tools.
7. Connect a Python program with an SQL database, and learn aggregation functions in SQL.
8. Have a clear understanding of cyber ethics and cybercrime. Understand the value of technology in societies, gender and disability issues, and the technology behind biometric ids.

## 3. Distribution of Marks

Unit No.	Unit Name	Marks
1.	Programming and Computational Thinking – 2	30
2.	Computer Networks	15
3.	Data Management – 2	15
4.	Society, Law and Ethics – 2	10
5.	Practicals	30
	Total	100

### 4.1 Unit 1: Programming and Computational Thinking (PCT-2) (80 Theory + 70 Practical)

- Revision of the basics of Python
- Functions: scope, parameter passing, mutable/immutable properties of data objects, pass arrays to functions, return values, functions using libraries: mathematical, and string functions.
- File handling: open and close a file, read, write, and append to a file, standard input, output, and error streams, relative and absolute paths.
- Using Python libraries: create and import Python libraries
- Recursion: simple algorithms with recursion: factorial, Fibonacci numbers; recursion on arrays: binary search
- Idea of efficiency: performance defined as inversely proportional to the wall clock time, count the number of operations a piece of code is performing, and measure the time taken by a program. Example: take two different programs for the same problem, and understand how the efficient one takes less time.
- Data visualization using Pyplot: line chart, pie chart, and bar chart.
- Data-structures: lists, stacks, queues.

#### 4.2 Unit 2: Computer Networks (CN)

(30 Theory + 10 Practical)

- Structure of a network: Types of networks: local area and wide area (web and internet), new technologies such as cloud and IoT, public vs. private cloud, wired and wireless networks; concept of a client and server.
- Network devices such as a NIC, switch, hub, router, and access point.
- Network stack: amplitude and frequency modulation, collision in wireless networks, error checking, and the notion of a MAC address, main idea of routing. IP addresses: (v4 and v6), routing table, router, DNS, and web URLs, TCP: basic idea of retransmission, and rate modulation when there is congestion (analogy to a road network), Protocols: 2G, 3G, 4G, Wi-Fi. What makes a protocol have a higher bandwidth?
- Basic network tools: traceroute, ping, ipconfig, nslookup, whois, speed-test.
- Application layer: HTTP (basic idea), working of email, secure communication: encryption and certificates (HTTPS), network applications: remote desktop, remote login, HTTP, FTP, SCP, SSH, POP/IMAP, SMTP, VoIP, NFC.

#### 4.3 Unit 3: Data Management (DM-2)

(20 Theory + 20 Practical)

- Write a minimal Django based web application that parses a GET and POST request, and writes the fields to a file - flat file and CSV file.
- Interface Python with an SQL database
- SQL commands: aggregation functions – having, group by, order by.

#### 4.4. Unit 4: Society, Law and Ethics (SLE-2)

(10 Theory)

- Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy.
- Privacy laws, fraud; cyber-crime- phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000.
- Technology and society: understanding of societal issues and cultural changes induced by technology.
- E-waste management: proper disposal of used electronic gadgets.
- Identity theft, unique ids, and biometrics.
- Gender and disability issues while teaching and using computers.

#### 5. Practical

S.No.	Unit Name	Marks (Total=30)
1.	<b>Lab Test (10 marks)</b>	
	Python program (60% logic + 20% documentation + 20% code quality)	7
	Small Python program that sends a SQL query to a database and displays the result. A stub program can be provided.	3
2.	<b>Report File + viva(9 marks)</b>	
	Report file: Minimum 21 Python programs. Out of this at least 4 programs should send SQL commands to a database and retrieve the result; at least 1 program should implement the web server to write user data to a CSV file.	7
	Viva voce based on the report file	2
3.	<b>Project + viva (11 marks)</b>	
	Project (that uses most of the concepts that have been learnt)	8
	Project viva voce	3

Some sample lab assignments are as follows:

### 5.1. Programming in Python:

- Recursively find the factorial of a natural number.
- Read a file line by line and print it.
- Remove all the lines that contain the character `a` in a file and write it to another file.
- Write a Python function  $\sin(x, n)$  to calculate the value of  $\sin(x)$  using its Taylor series expansion up to  $n$  terms. Compare the values of  $\sin(x)$  for different values of  $n$  with the correct value.
- Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).
- Write a recursive code to find the sum of all elements of a list.
- Write a recursive code to compute the  $n^{\text{th}}$  Fibonacci number.
- Write a Python program to implement a stack and queue using a list data-structure.
- Write a recursive Python program to test if a string is a palindrome or not.
- Write a Python program to plot the function  $y = x^2$  using the pyplot or matplotlib libraries.
- Create a graphical application that accepts user inputs, performs some operation on them, and then writes the output on the screen. For example, write a small calculator. Use the tkinter library.
- Open a webpage using the urllib library.
- Compute EMIs for a loan using the numpy or scipy libraries.
- Take a sample of 10 phishing e-mails and find the most common words.

### 5.2. Data Management: SQL and web-server

- Find the min, max, sum, and average of the marks in a student marks table.
- Find the total number of customers from each country in the table (customer ID, customer name, country) using group by.
- Write a SQL query to order the (student ID, marks) table in descending order of the marks.
- Integrate SQL with Python by importing the MySQL module
- Write a Django based web server to parse a user request (POST), and write it to a CSV file.

## 6. Project

The aim of the class project is to create something that is tangible and useful. This should be done in groups of 2 to 3 students, and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve. Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, Of course to do some of this projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves.

If three people work on a project for 6 months, at least 500 lines of code is expected. The committee has also been made aware about the degree of plagiarism in such projects. Teachers should take a very strict look at this situation, and take very strict disciplinary action against students who are cheating on lab assignments, or projects, or using pirated software to do the same. Everything that is proposed can be achieved using absolutely free, and legitimate open source software.

# DAV PUBLIC SCHOOLS RANCHI ZONE - B

## SYLLABUS OF PHYSICAL EDUCATION

CLASS XI 2018 - 19

### TERM -I

Units	Chapters	Weightage (For SA-I )		Weightage (Final exam.)
		No. of Periods	Marks	
1.	Changing trends& Career in Physical Education	12Periods	10	<b>As</b>
2.	Olympic Movement	11 Periods	15	<b>Per</b>
3.	Physical Fitness, Wellness & Lifestyle	12 Periods	12	<b>CAE</b>
4.	Physical Education & Sports for Differently Abled	10 Periods	15	<b>Marking</b>
5.	Yoga	11 Periods	10	<b>Scheme</b>
6.	Physical Activity & Leadership Training	11 Periods	8	

### TERM- II

Units	Chapters	No. of Periods	Weightage
			(Final Exam.)
7.	Test, Measurement and Evaluation	11 Periods	<b>As</b>
8.	Fundamentals of Anatomy & Physiology	11 Periods	<b>Per</b>
9.	Kinesiology, Biomechanics & Sports	11 Periods	<b>CAE</b>
10.	Psychology & Sports	11 Periods	<b>Marking</b>
11.	Training In Sports	11 Periods	<b>Scheme</b>
12.	Doping	10 periods	

Note : Physical Education Paper Carrying 26 Questions

All questions are compulsory

A - 11 Questions carrying 1 Mark

B - 8 Questions Carrying 3 Marks

C - 7 Questions Carrying 5 Marks

N.B :- According to CBSE Question Typology