GOVERNMENT OF SINDH
SCHOOL EDUCATION & LITERACY DEPARTMENT
Karachi, dated, the 19th October, 2020

NOTIFICATION

NO.SO(CURRICULUM)SELD/CONDENSE-SYLLABUS /2020 :In compliance with the decision of Sindh Curriculum Council and with the approval of Competent Authority i.e Minister for Education & Literacy Department, Government of Sindh the reduced syllabus for HSC Grades XI-XII is hereby notified for the academic year 2020-2021, jointly designed by the Directorate of Curriculum, Assessment & Research (DCAR) Sindh, Directorates of School Education and Boards of Intermediate and Secondary Education under the supervision and guidance of the working group on condensed syllabus:

I. The condense syllabus of HSC Part-I (grade-XI) (1- English, 2- Asan Urdu 3-Urdu Compulsory, 4- Islamiat, 5-Ethics 6- Biology, 7-Computer Science 8- Chemistry, 9- Mathematics and 10- Physics) annexed at Annexure-A-I to X.

II. The condense syllabus of HSC Part-II (grade-XII) (1-English, 2- Sindhi Compulsory 3-Urdu Compulsory, 4-Pakistan Study 5-Biology 6-Computer Science 7- Chemistry 8- Mathematics and 9- Physics) annexed at Annexure-B-I to IX.

III. The Annual Examination of HSC Part-I&II, 2021 of the boards will be conducted from reduced syllabus vide Annexure-A- I to X for HSC Part-I and Annexure-B-I to IX for HSC Part-II.

AHMED BAKHSH NAREJO
SECRETARY TO GOVT. OF SINDH

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A Copy is forwarded for information to:

1. The Principal Secretary to Governor, Sindh Karachi
2. The Principal Secretary to Chief Minister, Sindh Karachi.
3. The Secretary, College Education Department Government of Sindh.
4. The Secretary, Universities &Boards Department Government of Sindh.
5. The Special/Additional Secretary (All) School Education & Literacy, Department, Govt. of Sindh.
6. The Deputy Secretary (Staff) to Chief Secretary, Sindh, Karachi.
7. The Director General Colleges, Sindh, Karachi.
8. Members (All) Steering Committee on Education.
9. The Chairmen (All) Board of Intermediate & Secondary Education with the request for strict implementation.
10. The Director General Inspection & Registration of Private Educational Institutions, Sindh, Karachi with the direction to circulate and ensure strict implementation in the institutions.
11. The Director School Education (P/ES&HS) all, with the direction to circulate and ensure strict implementation in the Schools.
12. The Director, Curriculum, Assessment & Research, Jamshoro.
13. The Additional Director, Teachers Training Institutions, Sindh, Hyderabad.
14. The PS to Minister for Education & Literacy, Sindh.
15. The PS to Secretary School Education & Literacy Department Government of Sindh.
16. The Website.
17. The Office file

SECTION OFFICE (CURRICULUM)
19/10/XX

HSC PART-I
GRADE - XI
CONDENSED COURSE OF ACADEMIC YEAR 2020-21

ANNEXURE-A-I

ENGLISH -XI

Lesson No.	Lesson Name
READING TEXT # 01	Pakistan Zindabad
READING TEXT # 02	Birkenhead Drill
READING TEXT # 03	The United Nations
READING TEXT # 04	My Bank Account
READING TEXT # 08	The Wolves of Cernogratz
READING TEXT # 10	The English Language
READING TEXT # 12	Science and Society
Selections from English Verse (Part-I)	
Poem # 1	Under the Green Wood Tree
Poem # 2	Character of Happy Life
Poem # 05	Lucy Gray
Poem # 7	Abou Ben Adhem
Poem # 10	The Toys
Poem # 11	I have Reached Your Doorsteps
Drama/ Play	
"THE COUNT'S REVENGE"	Introduction of Play "THE COUNT'S REVENGE"
"THE COUNT'S REVENGE"	Characterization of the play
"THE COUNT'S REVENGE	SCENE-1
	SCENE-II
	SCENE-III
	The Story of play, Dueling
	Presentation/Dramatization

Guidelines for Effective Teaching:

➢ Adopt/implement flexible learning where learning choices may be offered to learners. (references of online resources, e-learning programs, media literature and telecommunication learning material etc.

➢ Home tasks may be assigned to engage students for practice.

➢ The Condensed course content need to be well organized/ planned before conducting session/class.

➢ Teaching & learning may be contextualized keeping in view the environment and resources.

➢ For development of Language skills especially in English student may be motivated to get assistance from parents, Siblings etc.

➢ Quick and constructive feedback may be provided to individual students on previous task to further enhance students' skills

➢ Development of Charts, individual classroom presentation, individual performances may be encouraged during the class.

➢ Grammar and language activities may be developed according to age and grade level of students. Grammar may be developed as per Board assessment.

➢ Activities/Exercises Questions at the end of unit may be used for assessing the students' progress according to condensed course during formative or summative assessment.

➢ A balanced test may be developed in accordance to target language.

ANNEXURE-A-II

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ASAN URDU - XI

صفحہ نمبر	مصنف	عنوان / مضمون	نمبر شمار
۵	ابو الاثر حفیظ جالندھری	حمد (نظم)	۱۔
۸	علامہ سید سلمان ندوی	نبی کریم صلی اللہ علیہ وآلہ وسلم کی ہجرت	۲۔
۱۶	مولانا حالی	حبِ وطن (نظم)	۳۔
۱۹	خواجہ حسن نظامی	جیسی کرنی ویسی بھرنی	۴۔
۲۳	مولوی محمد حسین آزاد	ایران کا جاڑا	۵۔
۲۶	نظیر اکبر آبادی	آدمی نامہ (نظم)	۶۔
۲۹	از: آغا محمد اشرف	نصوح کا خواب	۷۔
۳۴	مؤلف	اسلامی حکومت کا امیر سب کا خادم ہوتا ہے	۸۔
۳۷	مولوی محمد اسمٰعیل میرٹھی	آسمان اور تارے (نظم)	۹۔
۴۲	منشی پریم چند	حج اکبر	۱۰۔
۵۰	انیس ، حالی، اکبر، داغ	رباعیات (نظم)	۱۱۔
۶۵	سر سیّد احمد خان	طالب علموں کے نام سر سیّد کا ایک خط	۱۲۔
۶۸	مولوی شفیع الدین نیّر	مردِ مجاہد (نظم)	۱۳۔
۷۲	پطرس بُخاری	اُردُو کی آخری کتاب	۱۴۔

آسان اُردُو برائے گیارہویں جماعت   جماعت وار تلخیصی کورس (نصاب اُردُو کے مطابق)

زبان شناسی / قواعد

- مرکب مصادر کو بطور فعل معاون سیکھ سکے ۔
- اصنافِ سُخن کی تعریف کر سکے اور ان میں تمیز کر سکے۔
- علم بیان بدیع کی مجوزہ صنعتوں کی تعریف کر سکے۔
- مثلاً مبالغہ، تکرار، تضاد، تلمیح، تعلیل تشبیہ و استعارہ وغیرہ ۔
- مرکب جملوں کا درست استعمال کر سکے۔
- نظم و نثر میں رموز اوقاف کا درست استعمال کر سکے ۔
- کہانی ، انشائیہ یا مضمون وغیرہ لکھ سکے۔
- اسکول یا اس سے باہر کسی رسالے، اخبار اور ویب سائٹ وغیرہ میں اپنے پسندیدہ اسلوب میں تحریر پیش کر سکے۔

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URDU (COMPULSORY) GRADE XI

- زبان شناسی / قواعد:

- (1) اِشتقاق، مشتقات، وصفی اور لغوی، مجازی معنی، سلینگ بول چال اور اصطلاحی معنوں کے حوالے سے لُغت کا استعمال

- (2) مرکب مصادر کو بطور معاون افعال استعمال کرنا   (3) متعلق فعل   (Model Verb) کی تعریف و استعمال سے آگاہی

- (4) اصناف سخن کی تعریف اور پہچان   (5) روداد/ مکالمہ   (6) درخواست/ خط   (7) تلخیص

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ISLAMIAT -XI

CONDENSED CONTENT	CHAPTER
1. الله تعالیٰ پر ایمان 2. رسالت (انبیاء کی خصوصیات۔رسالت محمدی خاتم النبیین صلی اللہ علیہ وعلیٰ آلہ واصحابہ وسلم اور اس کی خصوصیات) 3. آخرت	**باب اول** بنیادی عقائد۔
1. نماز 2. روزہ 3. اللہ تعالیٰ اور رسول حضرت محمد رسول اللہ خاتم النبیین صلی اللہ علیہ وعلیٰ آلہ واصحابہ وسلم کی محبت و اطاعت 4. حقوق العباد 5. معاشرتی ذمے داریاں	**باب دوم** اسلامی تشخص
1. رحمۃ للعالمین 2. صبر و استقلال 3. عفوو درگذر	**باب سوم** اسوہ حضرت محمد رسول اللہ خاتم النبیین صلی اللہ علیہ وعلیٰ آلہ واصحابہ وسلم
1. تعارف قرآن مجید (فضائل قرآن مجید ۔ وحی کیا ہے ۔ نزول قرآن ۔قرآن مجید کی خوبیاں) 2. حدیث اور سنت 3. منتخب آیات (عربی متن بمع ترجمہ و تشریح) 4. منتخب احادیث(عربی متن بمع ترجمہ و تشریح)	**باب چهارم** تعارف قرآن و حدیث

ہدایات برائے اساتذہ   (اسلامیات)

- سبق پڑھانے سے پہلے سبق کا خلاصہ بیان کریں تاکہ سبق کے مقاصد کا حصول ممکن ہو ۔
- سبق پڑھاتے ہوئے ، الکلمات والتراکیب ، کا ترجمہ اور تشریح ضرور کرے۔
- استاد صاحب قرآنی آیات کا ترجمہ پہلے خود کرے۔ پھر مختلف طلبہ سے باری باری ترجمہ کروایا جائے ۔
- ہر پیراگراف کا مفہوم مختلف طلبہ سے زبانی پوچھا جائے۔ تاکہ طلبہ کو پورا سبق ذہن نشین ہوجائے اور وہ مشق از خود حل کرسکیں۔
- تحقیق کی سرگرمی کے ذریعے سے طلبہ میں تلاش و جستجو کی عادت پیدا کرنے کی کوشش کرے۔
- تدریس کے دوران آسان سے مشکل اور معلوم سے نامعلوم کی طرف سفر کرنے کے اصول کو اپنایا جائے۔
- دوران تدریس تقریری طریقہ ۔ ترجمے والا طریقہ۔ مباحثی طریقہ اور تفویضی طریقہ اختیار کیا جائے ۔ نیز مزیدطریقہائے تدریس بھی استعمال کیے جاسکتے ہیں۔

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ETHICS - XI-XII

Condensed Content	Chapter Theme
◆ اخلاق جي وصف ◆ اخلاق جو ڪارج ◆ اخلاقي حڪم ۽ عالمگير اخلاقي قدر	باب پهريون: اخلاق
◆ خدا جو وجود	باب ٻيو: اخلاق جا ڪجهه بنيادي مسئلا
◆ اخلاقي قانون ◆ اخلاقي قدر	باب ٽيون: اخلاقي قانونَ، حق ۽ فرض
◆ وڇڙيون فضيلتون ◆ فرض ۽ ذميواري	باب چوٿون: آزادي، اختيار ۽ ذميواري
◆ سوسائٽي ◆ ارسطو	باب پنجون: سوسائٽي، اخلاقي زندگي، اعليٰ آدرش
◆ يهودي مذهب ◆ عيسائي مذهب ◆ ٻڌ مت ◆ زرتشت مذهب ◆ هندو ڌرم ◆ اسلام ◆ سک مذهب	باب ڇهون: دنيا جي مذهبن جو اخلاقي فلسفو

Guide line for teacher for effective teaching:

1. استاد کي گهرجي ته سبق پڙهائڻ يا تدريسي عمل کان پهرين سبق جو خلاصو بيان ڪري ته جيئن پڙهائڻ جو مقصد حاصل ٿي سگهي.

2. سبق پڙهائڻ وقت شاگردن جو ڌيان عملي طور شامل هئڻ گهرجي

3. سبق پڙهائڻ وقت عملي سرگرمين جهڙوڪ سوال ڪرڻ، يا تجسس پري جان حاصل ڪرڻ جي جستجو ۽ عادت پيدا ڪرڻ لاءِ شاگرد کي همٿائڻ گهرجي.

4. سبق جي تدريس کان پوءِ شاگردن کان سبق بابت سوال ڪرڻ گهرجن ته جيئن سبق جو مقصد درست انداز ۾ سمجهي سگهن.

5. تدريس جو طريقو سولي کان سولو اختيار ڪيو وڃي.

6. پڙهائڻ ۽ سيکارڻ وقت عملي، بياني، بحث ۽ مباحثو ۽ تحريري وغيره طريقا استعمال ۾ آندا وڃن.

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BIOLOGY -XI

Chapter/Theme	Topic(s)
1. The Biology	1. Biology and its some major fields 2. Levels of Biological Organization
2. Biological Molecules	1. Relationship between structure and function of molecules 2. Organic molecules 3. Synthesis of large molecules by condensation 4. Breaking of large molecules by hydrolysis
3. Enzymes	1. Enzymes and their Characteristics 2. Factors affecting Enzymes activity
4. The Cell	1. Cell as basic unit of Life 2. Cell Theory **3.** Eukaryotic Cell 4. Cytoplasmic organelles &membrane system
5. Variety Of Life	1. Needs and Basis of Biological Classification 2. Concept of Hierarchy 3. Two Kingdom to Five Kingdom Systems **4.** Viruses (Discovery; Characteristics, Structure and classification) 5. Life cycle of Bacteriophage 6. Animal Diseases
6. The Kingdom Prokaryote	1. Bacteria (Discovery, Structure, Nutrition, Respiration and Reproduction) 2. Cyanobacteria (Nostoc structure, nutrition, reproduction and importance)
7. The Kingdom Protoctista	1. Diversity among Protista (Plant-like algae, Fungi-like Protoctista) 2. Protozoa and its classification
8. The Kingdom Fungi	1. The body of fungus **2.** Classification of fungi with reference to structure, reproduction and importance)
9. The Kingdom Plantae	1. Classification of Plants 2. Bryophytes (General characteristics; adaptations; life cycle and classes) 3. Tracheophytes 4. Major Groups of Vascular Plants 5. Spermopsida successful group of land plants

10. The Kingdom Animalia	1. Phylum Porifera (General Characteristics) 2. Phylum Cnidaria (General Characteristics; Diploblastic organization; Polymorphism and classes) 3. General Characteristics and classes 4. Phylum Platyhelminthes 5. Phylum Nemathelminthes 6. Phylum Annelida 7. Phylum Mollusca and classes 8. Phylum Arthropoda 9. Phylum Echinodermata 10. Phylum Chordata (Basics Chordate 11. Pisces, Amphibia, Reptilia, Aves and Mammalia
11. Bioenergetics	1. Need of Energy and role of ATP as energy 2. Photosynthesis (Raw material; product, process of photosynthesis) 3. Cellular respiration 4. Aerobic and anaerobic respiration
12. Nutrition	1. Autotrophic and Heterotrophic mode of Nutrition in Plants 2. Holozoic nutrition 3. Human Digestive System
13. Gaseous Exchange in Plants	1. Gaseous Exchange in plants 2. Gaseous Exchange in animals 3. Human respiratory system
14. Transport	1. Transport in Plants (Uptake and transport of water and minerals) 2. Ascent of sap 3. Transpiration (process, types, stomata structure and opening and closing) 4. Transport in Animals 5. Circulatory system in man 6. Human heart (Structure, Cardiac Cycle, heart beats) 7. Blood vessels 8. Lymphatics System 9. Immune system

Guide Lines for teachers for effective teaching:

1. Locate, select, organize and present relevant information from variety of sources.
2. Try to develop relationship among the remaining topics.
3. Guide students to understand scientific concepts & Terminology.
4. Use different teaching strategies to cover given topics in limited time.
5. Ensure that the students understand the concept(s) and processes.
6. Use appropriate Tools and techniques for teaching in Biology.

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COMPUTER SCIENCE - XI

Topics/ Sub Topic
INTRODUCTION TO COMPUTER
1.   Introduction to Computer
2.   Generation of Computers
3.   Advantages and Disadvantages of Computer
4.   Types of Computers: According to Size, According to Function
COMPUTER SYSTEM
1.   Hardware of Computer
2.   Input Devices (Keyboard, Mouse, Scanner, Mic)
3.   Output Devices (Monitor, Printer), Types of Printers, Types of Monitors, Plotters, Speakers)
4.   Computer Components: CPU, ALU, CU
5.   RAM and ROM (Its types)
NETWORKING
1. Internet
2. Intranet
3. Networking   a. LAN   b. WAN   c. MAN
4. Topologies: Star, Ring, Bus
BOOLEAN ALGEBRA
1.   Boolean Algebra
2.   Law of Boolean Algebra
3.   Truth Table
4.   Logical Gates
COMPUTER SOFTWARE
1.   Computer Software
2.   Types of Software
3.   Data Management Software
4.   Language Translator
5.   Types of Application Software
6.   Types of General-Purpose Software
5.   Special Purpose Software
DATA COMMUNICATION
1. Data Communication and its components
a. •   Signals: - Digital   - Analog
2. Modem (Its Function)
3. Types of Coding: o   BCD   o   EBCDIC   o ASCII
DATA SECURITY
1. Virus
2. Firewall and Proxy
3. Emails

Guidelines: Teachers should also conduct practicalabout programming (using BASIC or C). However, Final Practical Examination may be taken from MS Word or MS Excel.

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CHEMISTRY -XI

Chapter	TOPIC
1. Introduction to Fundamental Concepts of Chemistry	
1.2	Significant figures
1.5	Empirical Formula
1.6	Molecular Formula
1.8	Calculations Based on Chemical Equations
2. The Three states of Matter Gases, Liquid and Solids	
2.1	Kinetic Theory
2.3	Gas Laws (general gas equation and their problems grham,s law of diffusion)
2.7	Viscosity
2.8	Surface Tension
2.9	Vapour Pressure
2.12	Types of Crystals
2.13	Isomorphism
2.14	Polymorphism
3. The Atomic Structure	
3.2	Crookes's Tube or Discharge Tube Experiments-Passage of Electricity Through Gases at Low Pressure
3.4	Radioactivity-Confirmation of Electrons and Protons
3.5	Chadwick Experiment-Discovery of Neutrons
3.7	Planck's Quantum Theory-Quantization of Energy
3.8	Spectra
3.11	Bohr's Theory
3.12	Bohr's Theory and Hydrogen Atom
3.13	Determination of Energy
3.15	Heisenberg's Uncertainty Principle
3.16	Energy Levels and Energy Sub-Levels
3.17	Orbitals and Quantum Numbers
3.18	Pauli's Exclusion Principle
3.19	Shapes of Orbitals
3.20	Electronic Configuration
4. Chemical Bonding	
4.5	Dipole Moment
4.7	Bond Energy
4.8	Sigma and Pi Bond

4.9	Hybridization
4.10	Shape of Simple Molecules
4.11	Hydrogen Bond

5. Energetics of Chemical Reactions

5.1	Thermodynamic Terms System; Surroundings and State
5.2	First Law of Thermodynamic
5.5	Hess's Law of Constant Heat Summation
5.6	Heat of Formation

6. Chemical Equilibrium

6.2	Equilibrium State
6.3	The Law of Mass Action (Equilibrium Law)
6.4	Determination of Equilibrium Constant
6.5	Applications of The Law Equilibrium
6.6	Factors Affecting Balance of Chemical Equilibrium (Le Chatelier's Principle)

7. Solutions and Electrolytes

7.2	Hydration
7.3	Hydrolysis
7.4	Theory of Ionization
7.7	Oxidation Number (O.N)
7.8	Oxidation and Reduction Reactions
7.9	Balancing Oxidation-Reduction Equations (Ion-electron Method)
7.10	Indicators

8. Introduction to Chemical Kinetics

8.1	Rate and Velocity of Reaction
8.5	Factors Affecting Rate of Reaction

MATHEMATICS -XI

Chapters	Topics & Exercises
Chapter-1: Sets	1.1 Revision 1.2 A few definition 1.3 Operation on sets 1.4 Properties of operations on sets 1.5 Some important laws Exercise 1.1
Chapter-2: Real and Complex Number System	2.5 The system of complex numbers 2.6 Properties of complex numbers 2.7 Definition of imaginary numbers 2.8 Conjugate of complex number 2.9 Modulus of complex number 2.10 The subtraction of complex number 2.11 The division of complex numbers Exercise 2.2 2.12 Geometrical representation of the complex number $x + iy$ as pair of real numbers (x, y) 2.13 The order relations 2.14 vector interpretation of complex numbers 2.15 The triangle inequality 2.16 Real and Imaginary parts of $(x + y)^n$ Exercise 2.3
Chapter -3: Equation	3.5 The cube roots of unity 3.6 properties of the cube roots of unity Exercise 3.3 3.7 Equations reducible to the quadratic form Exercise 3.4 3.8 The theory of quadratic equations 3.9 Nature of the roots of a quadratic equation Exercise 3.5 3.10 Relations between the roots and the coefficients of a quadratic equation 3.11 To form a quadratic equation when it roots are given Exercise-3.6 3.13 system of two equations involving two variable 3.14 solution of different types of system of equation Ex.3.8
Chapter -6: Sequence and Series	6.1 Introductions 6.2 Arithmetic sequence and arithmetic progression (A.P) 6.3 Standard form of an A.P Exercise 6.1 6.4 Arithmetic series Exercise 6.2 6.8 Geometric sequence or geometric progression (G.P) 6.9 Standard form of a G.P Exercise 6.4 6.10 Geometric series Exercise 6.5 6.14 Harmonic sequence or harmonic progression (H.P) 6.15 General term of an A.P

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PHYSICS - XI

Chapter Name	Topics
1.The Scope of Physics	1. Definition of Physics 2. Measurement & system of units 3. Dimensions
2.Scalars & vectors	1. scalars & vectors 2. multiplication/division of a vector by a number 3. Types of vectors (unit, free, position, null) 4. The DOT product 5. Cross Product
3.Motion	1. Motion of a body connected by string (both cases) 2. law of conservation of momentum 3. Friction 4. Inclined Plane
4.Motion in two dimensions	1- Projectile motion 2- Maximum height of projectile 3-Range of projectile 4- Uniform circular motion 5- Angular displacement 6- Angular velocity 7- Angular acceleration 8- Centripetal acceleration 9- Centripetal force
5.Torque, Angular momentum & Equilibrium	1. Torque 2. Equilibrium & its conditions 3. Angular momentum
6.Gravitation	1. Newtons law of universal Gravitation 2. Mass & average density of Earth 3. Variation of 'g' with depth
7.Work, Power & Energy	1. Power 2. Interconversion of P.E & K.E(Work- Energy equation)
8.Wave, motion & Sound	1- Simple harmonic motion 2- Simple pendulum 3- Speed of sound waves 4- Characteristics of musical sound 5- Doppler effect
9.Nature of light	1- Young's double slit experiment 2- Michelson's interferometer 3- Diffraction grating 4- Diffraction of X-ray through crystals
10. Geometrical optics	1. Lenses 2. Image formation 3. Thin lens formula 4. Linear magnification 5. Compound microscope 6. Astronomical telescope

GUIDELINE FOR TEACHER FOR EFFECTIVE TEACHING: The above enlisted topics their relevant practical work and problems are included in the c_____

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ENGLISH GRADE XII

Lesson No.	Lesson Name
Reading Texts	
READING TEXT # 01	Twenty Minutes with Mrs. Oakentubb
READING TEXT # 02	Reflection on the Re-Awakening East
READING TEXT # 04	Pakistan and the Modern World
READING TEXT # 06	The World as I see It
READING TEXT # 07	The Devoted Friend
Selections from English Verse (Part-II)	
Poem # 01	The Seven Ages of Man
Poem # 03	Lines from Samson Agonistes
Poem # 06	The Solitary Reaper
Poem #07	Music When Soft Voices Die
Poem # 09	Say not the Struggle Naught Availeth
Poem # 11	The Lost Star
Novel	
Chapter # 1-22	The Prisoner of Zenda
Grammar & Composition	
	Summarizing the passages
	Précis and Translation
Letter Writing	Composition
Article writing	Composition
Essay Writing	Composition

Guidelines for Effective Teaching:

➢ Adopt/implement flexible learning where learning choices may be offered to learners. (references of online resources, e-learning programs, media literature and telecommunication learning material etc.

➢ Home tasks may be assigned to engage students for practice.

➢ The Condensed course content need to be well organized/ planned before conducting session/class.

➢ Teaching & learning may be contextualized keeping in view the environment and resources.

➢ For development of Language skills especially in English student may be motivated to get assistance from parents, Siblings etc.

➢ Quick and constructive feedback may be provided to individual students on previous task to further enhance students' skills

➢ Development of Charts, individual classroom presentation, individual performances may be encouraged during the class.

➢ Grammar and language activities may be developed according to age and grade level of students. Grammar may be developed as per Board assessment.

➢ Activities/Exercises Questions at the end of unit may be used for assessing the students' progress according to condensed course during formative or summative assessment.

➢ A balanced test may be developed in accordance to target Language.

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SINDHI (COMPULSORY) GRADE XII

مضمون/نظم نمبر	عنوان
1	قومي جذبو ۽ قومي اخلاق
2	ٻولي ۽ ان جون ادبي خوبيون
(ب)1	شاهه ڪريمؒ (بيت)
-	ادبي تاريخ (سومرن جو دور)
3	شاهه جو شعر ۽ شاعري
(ب)2	شاهه عبدالطيف ڀٽائيؒ سُر يمن ڪلياڻ
(ب)2	شاهه عبدالطيف ڀٽائيؒ سُر ڪنبات)
5	علم ادب جي ترقي جا طريقا
(ب)3	حضرت خواجه محمد الزمانؒ (بيت)
-	ڳالهائڻ جا لفظ
-	ڳالهائڻ جا لفظ
4	پاڪستاني قوميت جو مقصد
(ب)4	سچل سرمست (سُر سسئي)
-	ڳالهائڻ جا لفظ ۽ قسم
-	مضمون نويسي
-	اشتقاق، اصطلاح ۽ بيهڪ جون نشانيون
10	دنيا جو وڏي ۾ وڏو شاعر -شاهه عبدالطيف ڀٽائيؒ
(ب)5	حمل فقير
-	پھاڪا، چوٽيون ۽ انھن جو درست استعمال
-	تشبيهه، محاورو، تجنيس، استعارو
11	مصطفیٰ جي الوداعي نصيحت
6،8 (ب)	خليفو گل محمد هڪ غزل (آئي رت سانوٽ جي) ۽ مير عبدالحسين سانگي (غزل)
-	سنڌي ادب: (ڪلھوڙا دور)
-	زمان ۽ انھن جا قسم
-	سنڌي ٻوليءَ ۾ ناول نويسي.
13	عام سنڌي شاعري
9،15 (ب)	مرزا قليچ بيگ هڪ غزل (چڱائي ۽ انصاف) ۽ حڪيم نياز همايوني (وطن جو ترانو)
-	سنڌي ادب: (ٽالپرن جو دور)
-	جھان آرا ناول
-	جھان آرا ناول

استادن لاءِ هدايت:استاد تجويز ڪيل ڪورس کي پڙھائي, جائزو به وٺندو رھي ته جيئن بھتر نتيجا حاصل ڪري سگھجن.استاد بار بار کي گھرو ڪم پڻ ڏئي ،جيئن شاگرد پنھنجي صلاحيتن کي اجاگر ڪري سگھن.
تجويز ڪيل نثر، نظم ۽ گرامر مان امتحان ورتو وڃي. خاص طور تي ڪجھ نظمن جا شعر وقت جي گھٽائي شبب گھٽ ڪيا ويا آهن، امتحان لاءِ تجويز ڪيل شعرن مانئي چوند ڪئي وڃي.

URDU (COMPULSORY) GRADE XII

زبان شناسی / قواعد : **(1)** اشتقاق، مشتقات، وصفی اور لغوی، مجازی معنی، سلینگ بول چال اور اصطلاحی معنوں کے حوالے سے لُغت کا استعمال

(2) مرکب مصادر کو بطور معاون افعال استعمال کرنا **(3)** متعلق فعل (Model Verb) کی تعریف و استعمال سے آگاہی

(4) اصناف سخن کی تعریف اور پہچان **(5)** روداد/ مکالمہ **(6)** درخواست/ خط

(7) تلخیص

PAKISTAN STUDIES – XII

Chapters	Topic / Sub Topics
The Establishment of Pakistan	Conditions of South Asia before the Advent of Islam
	Impact of Islam on the South-Asian Society Civilizational Influence
	Pakistan: A Step towards the Establishment of an Islamic Society
	The Ideology of Pakistan
	Quaid-i-Azam and the Ideology of Pakistan
	The Struggle for Independence in the Provinces
	Foundation of Muslim League its Aims and Objects
	The Lucknow Pact of 1916
	The Khilafat Movement
	Fourteen Points
	Allahabad Address
	The Mass Movement of Muslim League and Establishment of Pakistan: The Pakistan Resolution of1940
	Cripps Proposals of 1942
	Shimla Conference and Elections
	Interim Government
	Arrival of Mountbatten and the Partition of Sub-continent
History of Pakistan	The Salient Features of the Indian-Independence Act 1947
	Radcliffe Award and the Injustice to the Muslim.
	Initial Problems of Pakistan
	Foreign Policy Strategy
Establishment of an Islamic Democratic State	Objectives Resolution
	The Martial Law of 1958
	Martial Law of 1969
	The 1973 Constitution
	The Pakistan National Alliance (PNA) Movement of 1977
	The 1977 Martial Law

	Elections of 1985and the lifting of Martial Law
	The Election of 1988
The Land of Pakistan	Location of Pakistan
	The Importance of its Location
	Physical Features and Landscape of Pakistan
	The Salt Range and Potohar Plateau
	The Upper Indus plain
	The Lower Indus Plain
	The Baluchistan Plateau
	The Climate of Pakistan
	The Salt Range and the Potohar Plateau
	District Local Government System-2001
	District Council
	Metropolitan corporation
	Municipal Corporation
	Municipal Committee
	Divisional System
	Judicial System
The Culture of Pakistan	The Cultural Heritage of Pakistan
	Salient Features of Pakistani Culture
	The Religious Unity and Solidarity
	Mix of our Culture
	The Man-Woman Status
	Social Mode of Life
	Dress
	Food
	Games, Sports, Entertainments and Fairs
	Marriage Ceremony
Languages of Pakistan	Urdu
	Pastho
	Sindhi
	Punjabi
	Balochi
	Kashmiri
Economic Planning and Development	Agriculture:
	Rural Development
	Water and Electricity

	Energy
	Education
	Health
	Industry
	Import Policy
	Exports
	The Eight Development Plan
Pakistan and the Comity of Nation	The United Nations (UN)
	Organization of Islamic Conference (OIC)
	Economics Cooperation organization (ECO)
Fundamental Rights Protected under the 1973 Constitution of Pakistan	Introduction
	What is State?
	Elements of State
	Population:
	Territory:
	Government:
	Sovereignty:
	Duties/ Responsibilities of State
	Concept of Fundamental Rights
	Fundamental Rights of Citizens Under 1973 Constitution
	Article.9: "Security of Person"
	Article.10: Safeguards as to arrest and detention and Security of Person
	Article. 11: Slavery, forced labour, etc. Prohibited
	Article. 12: Protection against Retrospective Punishment
	Article. 13: Protection against Double Punishment and Self-Incrimination
	Article. 14: Inviolability of Dignity of Man etc.
	Article. 15: Freedom of Movement etc.
	Article. 16: Freedom of Assembly
	Article. 17: Freedom of Association
	Article. 18: Freedom of trade; business or profession
	Article. 19: Freedom of Speech and Expression
	Article. 19: A: Right to Information
	Article. 20: Freedom to profess and to manage religious institutions-subject to law, public order and morality
	Article. 21: Safeguard against Taxation for purpose of any particular religion
	Article. 22: Safeguards as to Educational institutions in respect of religion etc.

	Article. 23: Provision as to Property
	Article. 24: Protection of Property Rights
	Article. 25: Equality of Citizens
	Article. 25: A: Right to Education
	Article. 26: Non-Discrimination in Respect of Access to Public Places
	Article. 27: Safeguard against Non-Discrimination in Service
	Article. 28: Preservation of Language, Script and Culture
	Role of Judiciary in Protection of Fundamental Rights
	Importance of Fundamental Rights
Violation of Rights and Redressal of Grievances	Role of Judiciary in Safeguarding Fundamental Rights of Citizen
	Ministry of Human Rights, Government of Pakistan
	Role of Human Rights Department, Government of Sindh in Protection of Rights of Citizens
	Ombudsman in Pakistan
	Female Ombudsperson
	Powers and Functions of Ombudsman

Guidelines for Effective Teaching:

- ➢ Adopt/implement flexible learning where learning choices may be offered to learners. (references of online resources, e-learning programs, media literature and telecommunication learning materialetc.

- ➢ Home tasks may be assigned to engage students forpractice.

- ➢ The Condensed course content need to be well organized/ planned before conducting session/class.

- ➢ Teaching & learning may be contextualized keeping in view the environment and resources.

- ➢ Quick and constructive feedback may be provided to individual students on previous task to further enhance students'skills

- ➢ Development of Charts, individual classroom presentation, individual performances may be encouraged during theclass.

- ➢ Activities/ Exercise Questions at the end of unit may be used for assessing the students' progress according to condensed course during formative or summativeassessment.

- ➢ During class inquiry-based approach may beadopted.

- ➢ local and International examples may be provided to the students through demonstration andVideos.

BIOLOGY – XII

Chapter/Theme	Topic(s)
1. Homeostasis	1. Homeostasis 2. Osmoregulation in Plants and animals 3. Excretion in man 4. Kidney Problems 5. Thermoregulation in plants and mammals (man)
2. Support and Movement	1. Support in plants 2. Movements in plants 3. Skeletal system in animals 4. Muscle and its types 5. Locomotion in animals
3. Coordination and Control	1. Introduction Control in Plants 2. Coordination & Control in Animals Nervous Coordination 3. Reflex action 4. Human nervous system 5. Chemical Coordination 6. Endocrine system in mammals
4. Reproduction	1. Asexual and Sexual reproduction in plants 2. Pollination, double fertilization 3. Types of germination 4. Asexual and Sexual reproduction in animals 5. Female reproductive Cycle.
5. Growth and Development	1. Growth and Development in Plants 2. Growth and Development in Animals.
6. Chromosomes & DNA	1. Types of chromosomes 2. Chemical composition of chromosomes 3. Brief reference to DNA structure 4. Cells use RNA to make proteins 5. Mutation
7. Cell Cycle	1. Amitosis 2. Mitosis 3. Meiosis
8. Variation and Genetics	1. Review of Mendel's Laws of inheritance 2. Sex determination and sex linkage in Drosophila and man
9. Biotechnology	1. Genetic Engineering 2. Tissue culture 3. Role of Biotechnology in the diagnosis of diseases
10. Evolution	1. Inheritance of Acquired Characters 2. Theory of Natural Selection

	3. Artificial selection and its role 4. Endanger species
11. Ecosystem	1. The Ecosystem
12. Some Major Ecosystems	1. Life in fresh and marine water 2. Terrestrial Ecosystem
13. Man, and his Environment	1. Renewable and non-renewable resources 2. Pollution (Air, Water, Land, wild life, food.

Guide Lines for teachers for effective teaching:

1. Locate, select, organize and present relevant information from variety of sources.
2. Try to develop relationship among the remaining topics.
3. Guide students to understand scientific concepts & Terminology.
4. Use different teaching strategies to cover given topics in limited time.
5. Ensure that the students understand the concept(s) and processes.
6. Use appropriate Tools and techniques for teaching in Biology.

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COMPUTER SCIENCE - XII

S#	Topics/ Sub Topic
1	1. Using IDE 2. Writing a C program 3. C Program format and Basic Structure. 4. Compile, check errors, Run and see result. 5. Use printf() function and "Format Specifiers"
2	1. Variables (Types, Defining and declaring, initializing), Constants 2. Input/Output (printf(), scanf(), getche(),Format specifiers, Escape sequences) 3. Operators (Arithmetic operator (+, -, *, /, %), Arithmetic assignment operator (+=, -=, *=, /=, %=), (increment and decrement operators ++,--), (Relational operators (<,<=,>,>=,==,!=), operators precedence 4. Comments /* */
3	1. Loops ("for" loop, "while" loop, "do while" loop, nested loops. 2. "break" and "continue" statements.
4	1. "if" statement 2. "if-else" statement 3. Nested "if" and "else" 4. Logical operators OR (‖) AND (&&) NOT (!) 5. Switch statement ("default" and "break")
5	1. Function (define and need), structure or format of functions (Function definition, calling, prototype or declaration). 2. Sending and returning values from functions, return statement. 3. Passing variables and constants as arguments. 4. Argument variables (parameters) , local (automatic) and global (external) variables.
6	1. Arrays, defining and initializing arrays. 2. Referring to individual elements of an array 3. Strings definition (string constants and variables), initializing strings. 4. String functions

These topics have been taken from the book '*The Waite Group's Turbo C Programming for the PC'* by Robert Lafore, according to the Syllabus outline of BISE.

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CHEMISTRY - XII

Chapter	TOPIC
1. Introduction to Fundamental Concepts of Chemistry	
1.6	Modern Periodic Law-Periodic Table Based on Moseley's contribution
1.7	Classification and Long form of Periodic Table on the basis of Electronic configuration
1.8	Types of elements based on Electronic configuration
2. Hydrogen	
2.2	Position of hydrogen in the Periodic table
2.4	Atomic Hydrogen
2.5	Binary Compounds of Hydrogen
3. S-Block Elements	
3.1	Introduction
3.2	Group trends in alkali and alkaline earth metals
3.3	Chemical properties of S-blocks elements
3.4	Occurrence and Extraction of Metals
4. P-Block Elements	
4.1	Introduction
4.3	Metallurgy of Metals
4.6	Nitric Acid (HNO_3)
4.10	Chlorine
5. d- Block Elements (Transition Elements)	
5.1	Introduction
5.3	Generals Characteristics
5.6	Copper Sulphate ($CuSO_4 5H_2O$)
5.7	Potassium Chromate (K_2CrO_4)
5.10	Corrosion and its prevention
6. Introduction to Organic Chemistry	
6.1	Natural sources of organic compounds
6.4	Polymerization
6.5	Classification of organic compounds or Types of organic compounds
6.6	Homologous series
6.7	Isomerism
6.8	Nomenclature
7. Chemistry of Hydrocarbons	
7.1	Open chain and closed chain hydrocarbons
7.3	Chemistry of Ethane
7.4	Chemistry of Ethene
7.5	Chemistry of Ethyne
7.6	Benzene
7.7	The Molecular orbital treatment of Benzene

8. Alkyl Halides	
8.1	Classification of alkyl Halides
8.2	Nomenclature
8.4	Mechanism of Nucleophilic substitution Reactions

9. Carbon Compounds with Oxygen Containing Functional Group	
9.1	Alcohols
9.4	Aldehydes and Ketones

10. Chemistry of Life	
10.1	Definition and Introduction
10.3	Carbohydrates
10.4	Amino acids
10.7	Enzymes

11. Chemical Industries in Pakistan	
11.1	Fertilizers
11.3	Glass
11.5	Plastics

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MATHEMATICS - XII

Chapter	Topics & Exercises
Chapter -1: Function and Limits	1.25 Meaning of the phrase "x tends to a" 1.6 Limit of function Exercise 1.6 1.27 Limit as x tends to $\pm\infty$ Exercise 1.7
Chapter -2: The Straight Line	2.1 Cartesian coordinates system 2.2 Distance between two given points Exercise 2.1 2.1 Division of a given line segment in a given ratio Exercise 2.2 2.5 Curves and equations 2.6 Slope (or gradient) of a line 2.7 Slope of a line joining two given points 2.8 Condition for three points to be collinear 2.9 Parallel perpendicular lines 2.10 Angle from one line to another in the slope Exercise 2.4 2.11 Lines parallel to the axes of coordinates various form of an equation of a line from another 2.12 Various forms of equation of straight line 2.13 Deduction of one form of an equation of a line from another Exercise 2.5
Chapter -3: **The General Equation of straight line**	3.1 The general linear equation 3.2 Angle between two lines from l_2 to l_1 in the general form 3.3 point of intersection of two straight lines 3.4 Concurrency of three lines 3.5 Equation of lines in the matrix form 3.6 Lines through the intersection of two given lines Exercise 3.1 3.7 Position of a point with respect to a given straight line 3.8 Distance of a point from a line 3.9 Area of triangle, Exercise 3.2
Chapter -4: **Differentiability**	4.1 Derivatives of a function at a point Exercise 4.1 4.2 Composite function Exercise 4.2 4.3 Implicit function Exercise 4.3 4.4 Paramedic function 4.5 Higher derivative Exercise 4.4
Chapter -5: **Application of Differential calculus**	5.4 Increasing and decreasing function Exercise 5.3
Chapter -6 **Antiderivatives**	6.1 Antiderivatives or Integration Exercise 6.1, 6.2 6.2 Integration by substitution Exercise 6.3, 6.5 6.4 Integration by parts Exercise 6.7 6. 6 Integration of rational functions Exercise 6.9
Chapter -7: Circle	7.1 Introduction 7.2 Equation of circle 7.3 Equation of circle with line segment and its diameter Exercise 7.1
Chapter -8: Parabola Ellipse & Hyperbola	8.5 Equation of chords 8.6 Equation of Tangents and normal to conics 8.7 two tangent and condition of tendency to conics Exercise 8.4

Chapter -9: Vectors	9.9 The scalar and vector products of two vectors Exercise 9.5
	9.10 Scalar product of three vectors Exercise 9.6
	9.11 Application of vectors mechanics Exercise 9.7

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PHYSICS - XII

Chapter name	Topics
11. Heat	1- Thermal expansion 2- Linear thermal expansion Volume expansion 4- Boyle's law 5- Charle's law 6- General gas equation 7- Specific heat capacity 8- Molar specific heat 9- First law of thermodynamics 10- Application of first law of thermodynamics 11- Second law of thermodynamics 12- The Carnot engine
12. Electrostatics	1- Coulomb's law 2- Intensity of electric field 3- Gauss's law 4- Electric potential 5- Parallel plate Capacitor & combination of capacitors
13. Current electricity	1. Electric current 2. Electric resistance & Ohm's law 3. Combination of resistors 4. Electromotive force
14. Magnetism & Electromagnetism	1. Magnetic field due to current 2. Force on a current carrying conductor in a uniform magnetic field 3. Ampere's law 4. Electromagnetic induction 5. Laws of electromagnetic induction (Faraday's laws) 6. Self-induction 7- Mutual induction 8- Transformer
15. Electrical measuring instruments	1. The moving coil galvanometer 2. The ammeter The Voltmeter
16. Electromagnetic waves & Electronics	1- Amplitude Modulation 2- Frequency Modulation 3- Transistor
17. Advent of modern Physics	1. Frame of reference 2. The principle of relativity 3. Postulates & consequences of Special theory of relativity 4. The Photoelectric effect 5. The Compton effects 6. Pair production & annihilation of matter
18. The atomic spectra	1. Bohr's model for Hydrogen atom 2. X-ray spectra 3. Introduction to laser & its principles
19. The atomic nucleus	1. Radioactivity & Nuclear changes 2. The law of radioactive decay 3. The half period or the half-life of the radioactive nuclide 4. Nuclear fission 5. Nuclear fusion
20. Nuclear radiations	1. Wilson cloud chamber 2. Geiger Counter

GUIDELINE FOR TEACHER FOR EFFECTIVE TEACHING: The above enlisted topics their relevant practical work and problems are included in the course.

NOTIFICATION

NO.SO(CURRICULUM)SELD/CONDENSE-SYLLABUS /2020: In compliance with the decision of Sindh Curriculum Council, and with the approval of Competent Authority i.e Minister for Education & Literacy Department, Government of Sindh, the reduced syllabus for SSC Grades IX-X is hereby notified for the academic year 2020-2021, jointly designed by the Directorate of Curriculum, Assessment & Research (DCAR) Sindh, Directorates of School Education and Boards of Intermediate and Secondary Education under the supervision and guidance of the working group on condensed syllabus:

I. The condense syllabus of SSC Part-I (grade-IX) (1- English, 2- Sindhi Compulsory 3-Urdu Compulsory 4-Islamiat, 5-Ethics (IX-X) 6- Biology, 7-Computer Science 8- Chemistry, 9- Mathematics and 10- Physics) annexed at Annexure-A-I to X.

II. The condense syllabus of SSC Part-II (grade-X) (1-English, 2- Asan Sindhi 3-Asan Urdu, 4- Mathematics and 5- Physics) annexed at Annexure-B-I to V.

III. The Annual Aexamination of SSCPart-I&II, 2021 of the Boards will be conducted from reduced syllabus vide Annexure-A-I to X for SSC Part-I and Annexure-B-I to V for SSC Part-II.

AHMED BAKHSH NAREJO
SECRETARY TO GOVT. OF SINDH

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A Copy is forwarded for information to:

1. The Principal Secretary to Governor, Sindh Karachi
2. The Principal Secretary to Chief Minister, Sindh Karachi.
3. The Secretary, College Education Department Government of Sindh.
4. The Secretary, Universities & Boards Department, Government of Sindh
5. The Special/Additional Secretary (All) School Education & Literacy, Department, Government of Sindh.
6. The Deputy Secretary (Staff) to Chief Secretary, Sindh, Karachi.
7. The Director General Colleges, Sindh, Karachi.
8. Members (All) Steering Committee on Education.
9. The Chairmen (All) Board of Intermediate & Secondary Education with the request for strict implementation.
10. The Director General Inspection & Registration of Private Educational Institutions, Sindh, Karachi with the direction to circulate and ensure strict implementation in the institutions.
11. The Director School Education (P/ES&HS) all, with the direction to circulate and ensure strict implementation in the Schools.
12. The Director, Curriculum, Assessment & Research, Jamshoro.
13. The Additional Director, Teachers Training Institutions, Sindh, Hyderabad.
14. The PS to Minister for Education & Literacy, Sindh.
15. The PS to Secretary School Education & Literacy Department Government of Sindh.
16. The Website.
17. The Office file

SECTION OFFICE (CURRICULUM)

SSC PART-I
GRADE - IX
CONDENSED COURSE OF ACADEMIC YEAR 2020-21

ANNEXURE-A-I

ENGLISH -IX

Unit	Unit Name
1.1	**Reading Comprehension** The Last Sermon of the Holy Prophet (S.A.W) (Exercises 1,2,3,4,6 and 8)
1.2	**Listening &Speaking.** Sharing Information and Ideas (All Exercises)
1.3	**Language Practice** Conditional Sentences(All Exercises)
1.4	**Writing** Descriptive Essay (All Exercises) Formal Letters (All Exercises)
2.1	**Reading Comprehension** Shah Abdul Latif (Exercise: 1,2,3,5 and 6)
2.2	**Listening &Speaking** Asking and Answering Questions of a Social Nature (All Exercises)
2.3	**Language practice** Suffixes (All Exercises)
2.4	**Writing** Narrative Essay (All Exercises) Summary Writing (All Exercises)
3.3	**Language practice** Use of article 'a, an and the' (All Exercises)
3.4	**Writing** Informal Emails(All Exercises) Compare and Contrast Essay (All Exercises)
4.1	**Reading Comprehension** The Great Visionaries (Exercise: 3,5,6,7,8 and 9)
4.2	**Listening & Speaking** Asking and Responding to Questions of Academic Nature (All Exercises)
4.3	**Language Practice** Change the Voice (All Exercises) Prefixes (All Exercises)
4.4	**Writing** Paraphrasing a Poem (All Exercises) Application(All Exercises)
5.1	**Reading Comprehension** Health Problems Caused by Mosquitoes (Exercises:2,3,4,5,6 and 7)
5.2	**Listening and Speaking** Express Satisfaction/ Dissatisfaction (fully and partially) Politely (All Exercises)
5.3	**Language Practice**

	Narration (All Exercises)
6.1	**Reading Comprehension** The Role of Women in Pakistan's Creation and Development. (Exercises:1,2,3,5 and 7)
6.3	**Language Practice** Synonyms(All Exercises) Use of Since and for (All Exercises)
7.3	**Language Practice** Translation (All Exercises)
8.3	**Language practice** Degrees of Adverbs. (All Exercises)
8.4	**Writing** Summarizing a Poem (All Exercises)

Guidelines for Effective Teaching:

➢ Home tasks may be assigned to engage students for practice.

➢ Teaching & learning may be contextualized keeping in view the environment and resources.

➢ Development of Charts, classroom presentation, individual performances may be encouraged.

➢ A balanced test may be developed in accordance with target language.Model TestPaper for assessment of students is given in the textbook.

➢ Activities/Exercise Questions at the end of unit may be used for assessing the students' progress according to condensed course during formative or summative assessment.

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SINDHI (COMPULSORY)- IX

سبق نمبر	سبق
01	حضور اڪرم صلي الله عليه وآله وسلم جن جا اخلاق مبارڪ (خلاصو، مشق ۽ لاڳاپيل گرامر)
02	حضرت امام حسين عليه السلام (خلاصو، مشق ۽ لاڳاپيل گرامر)
21	شاه عبداللطيف ڀٽائي رحمة الله عليہ (حوالو ، سمجهائي)
05	گنجي ٽڪر جو سير (خلاصو، مشق ۽ لاڳاپيل گرامر)
22	سچل سرمست رحمة الله عليہ (ڦريون، ڀيو ۽ پنجون بيت) (حوالو ، سمجهائي)
10	جمشيد نسروانجي هڪ نيڪ دل انسان. (خلاصو، مشق ۽ لاڳاپيل گرامر)
21	سامي (ڦريون ۽ ڀيو بيت) (حوالو ، سمجهائي)
	ٻٽي معني وارا لفظ، تجنيس حرفي، تجنيس ناقص ۽ تجنيس تام ۾ فرق سمجهائڻ
24	سيد ثابت علي شاهہ(حوالا ۽ سمجهائي)
	خط ۽ درخواست
15	گورڪ هل اسٽيشن(خلاصو، مشق ۽ لاڳاپيل گرامر)
13	سنڌي ادب جي مختصر تاريخ (خلاصو، مشق ۽ لاڳاپيل گرامر)
	مضمون
	علم بيان جي بنيادي اصطلاحن (تشبيهه، استعاري، ڪنايي، مجاز مرسل ۾ فرق) شعري اصطلاحن (شعر، مصرع، مطلع، مقطع، قافيو ۽ رديف)
29	ڪشنچند بيوس (ڦريون، ڀيو ۽ ڇهون بند) (حوالو ، سمجهائي)
20	سورٺ ۽راءِ ڏياچ (خلاصو، مشق ۽ لاڳاپيل گرامر)
34	مخدوم محمد زمان طالب المولى (حوالو ۽ سمجهائي)
	بيهڪ جون نشانيون ، اشتقاق ڪرڻ، محاورا، فقرا وغيره
	ورجاءُ

استادن لاءِ هدايتون: استاد پنهنجي مهارت جي بنياد تي تجويز ڪيل ڪورس کي پڙهائي ۽ روزانو جي بنياد تي جائزو به وٺندو رهي ته جيئن بهتر نتيجا حاصل ڪري سگهجن.

استاد ٻار کي گهرو ڪم ڀٽ ڏئي ،جيئن شاگرد پنهنجي صلاحيتن کي اجاگر ڪري سگهن.

تجويز ڪيل نثر، نظم ۽ گرامر مان امتحان ورتو وڃي. خاص طور تي ڪجھ نظمن جا شعر وقت جي گهٽتائي سبب گهٽ ڪيا ويا آهن، امتحان لاءِ تجويز ڪيل شعرن مان چوند ڪئي وڃي.

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URDU (COMPULSORY)- IX

صفحہ نمبر	عنوان/ مضامین		نمبر شمار
۱۰	از : شبلی نعمانی	اخلاقِ نبوی صلی اللہ علیہ وآلہٖ و سلم	۱۔
۳۱	از : حکیم محمّد سعید	رشتہ ناتا	۲۔
۴۰	از : ڈاکٹر غلام مصطفےٰ خان	نظریۂ پاکستان	۳۔
		افسانوی ادب	
۵۰	از : ڈپٹی نذیر احمد دہلوی	اصغری نے لڑکیوں کا مکتب بٹھایا	۴۔
۵۸	از : مُنشی پریم چند	بوڑھی کاکی	۵۔
		ڈراما/ مکالمہ	
۷۴	از : مرزا ادیب	شہید	۶۔
		خاکہ/ آپ بیتی	
۹۱	از : قدرت اللہ شہاب	ڈسٹرکٹ بورڈ کی ڈسپنسیری	۷۔
		طنز و مزاح	
۹۹	از : مرزا فرحت اللہ بیگ	اونٹھ	۸۔
		مکاتب	
۱۱۲	از : غاؔلب	بہ نام ہر گوپال تفتہ	۹۔
۱۱۳	از : غاؔلب	بہ نام میر مہدی مجروؔح	۱۰۔
شعرا		حصۂ نظم (عنوان)	
۱۱۸	از : مولانا اسمٰعیل میرٹھی	حمدِ باری تعالیٰ	۱۱۔
۱۲۳	از : امیرؔ مینائی	نعت	۱۲۔
۱۲۸	از : نظیؔر اکبر آبادی	برسات کا تماشا	۱۳۔
۱۳۳	از : علامہ محمد اقباؔل	دُنیائے اسلام	۱۴۔
۱۴۳	از : میر انیسؔ	گرمی کی شِدّت	۱۵۔
۱۴۸	از : جمیل الدّین عاؔلی	جیوے جیوے پاکستان	۱۶۔
		غزلیات	
۱۵۷	میر تقی میؔر	فقیرانہ آئے صدا کر چلے	۱۷۔
۱۶۵	از : مرزا غاؔلب	ہر ایک بات پہ کہتے ہو تم کہ "تو کیا ہے"؟	۱۸۔

جماعت وار تلخیصی کورس (نصابِ اُردو کے مطابق)
اُردو لازمی برائے نویں دسویں جماعت

زبان شناسی/ قواعد

- روزمرہ اور محاورہ کے لحاظ سے غلط فقرات کی درستی
- مکالمہ/ روداد نویسی
- کہانی لکھنا
- مضمون
- خط (رسمی/ غیر رسمی)
- ہئیت کے لحاظ سے غزل اور نظم کے فرق کو سمجھنا
- اپنے خیالات کو مختلف اندازِ بیان یا محضر کے لحاظ سے تحریر کر سکنا

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ISLAMIAT GRADE - IX

CHAPTER	CONDENSED CONTENT
حصہ اول قرآن مجید (با محاوره ترجمہ) سورة الانفال	حصہاول : قرآنمجید (بامحاورہترجمہ) (سورة الانفال) الجزء الاول من هدی القرآن الكریم الدرس الاول-(الف) (سورة الانفال) (آیات - 1 - 10) الدرس الاول-(ب) (سورة الانفال-آیات 11 - 19) الدرس الاول-(ج) (سورة الانفال آیات 20 - 28) الدرس الثانی-(الف) (سورة الانفال -آیات - 29 - 37) الدرس الثانی-(ب) (سورة الانفال - آیات 38 - 44) الدرس الثانی-(ج)(سورة الانفال - آیات - 45 - 48) الدرس الثانی-(د) (سورة الانفال - آیات 49 - 58) الدرس الثالث-(الف) (سورة الانفال - آیات - 59 - 64) الدرس الثالث-(ب) (سورة الانفال - آیات - 65 - 69) الدرس الثالث-(ج)(سورة الانفال - آیات - 70 - 75)
حصہ دوم احادیث مبارکہ	احادیث مبارکہ (من هدی الحدیث) دس (10) احادیث عربی متن بمع ترجمہ و تشریح 1. افضل الاعمال لاالہ الا اللہوافضل الدعاء الاستغفار 2. طلب العلم فریضۃ علی کل مسلم 4. من صلی علی مرۃ فتح اللہ لہ بابا من العافیۃ 6. من احب للہ وابغض للہ واعطی اللہ ومنع للہ فقد استکمل الایمان 7. لیس منا من لم یرحم صغیرنا ولم یوقر کبیرنا 8.الراشی والمرتشی فی النار 10. ان اکمل المؤمنین ایمانا احسنهم خلقا 11. الصلوٰۃ عماد الدین ومن اقامها فقد اقام الدین ومن هدمهافقد هدم الدین 19. كلكم راع وكلكم مسئول عن رعیتہ 20. خیر الناس من ینفع الناس
حصہ سوم موضوعاتی مطالعہ -	1 : قرآنمجید ،تعارف ،حفاظت ،فضائل 2:اللہ تعالی اور اس کے رسول حضرت محمد رسول اللہ خاتم النبیین صلی اللہ علیہ وعلیٰ آلہ واصحابہوسلم کی محبت و اطاعت 3:علم کی فرضیت و فضیلت

ہدایات برائے اساتذہ (اسلامیات)

- سبق پڑھانے سے پہلے سبق کا خلاصہ بیان کریں تاکہ سبق کے مقاصد کا حصول ممکن ہو ۔

- قرآنی آیات کا ترجمہ استاد پہلے خود کرے۔

- سبق پڑھاتے ہوئے، الکلمات والتراکیب ، کا ترجمہ اور تشریح ضرور کرے۔

- مختلف طلبہ سے باری باری قرآنی آیات کا ترجمہ کروایا جائے اور ہر پیراگراف کا مفہوم مختلف طلبہ سے زبانی پوچھا جائے ۔ تاکہ طلبہ کو پورا سبق ذہن نشین ہوجائے اور وہ مشق از خود حل کریں۔

- تحقیق کی سرگرمی کے ذریعے سے طلبہ میں تلاش و جستجو کی عادت پیدا کرنے کی کوشش کرے۔

- تدریس کے دوران آسان سے مشکل اور معلوم سے نامعلوم کی طرف سفر کرنے کے اصول کو اپنایا جائے۔

- دوران تدریس تقریری طریقہ ۔ ترجمے والا طریقہ۔ مباحثی طریقہ اور تفویضی طریقہ اختیار کیا جائے ۔ نیز مزیدطریقہائے تدریس بھی استعمال کیے جاسکتے ہیں۔

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ETHICS (for Non-Muslims) Grade IX-X

Condensed Content	Chapter No:
سويارو پاکستان (نظم)	1
علم اخلاق	2
الله تعاليٰ سيني خوبين جو مالڪ	3
انساني ۽ اخلاقي قدر	4
ٻين جي جان، مال ۽ عزت جو احترام	7
منظم ورتاءُ	12
رواداري	17
حضرت موسيٰ عليه السلام	21
حضرت عيسيٰ عليه السلام	22
حضرت محمد رسول الله خاتم النبيين صلي الله عليه وآله و اصحابه وسلم	23
مهاتما گوتم ٻڌ	24
زرتشت	25
شري ڪرشن جي	26
گرو نانڪ	27
حق ۽ فرض	29
سماجي ادارا	30

Guide line for teacher for effective teaching:

١. استاد کي گهرجي ته سبق پڙهائڻ يا تدريسي عمل کان پهرين سبق جو خلاصو بيان ڪري ته جيئن پڙهائڻ جو مقصد حاصل ٿي سگهي.
٢. سبق پڙهائڻ وقت شاگردن جو ڌيان عملي طور شامل هئڻ گهرجي
٣. سبق پڙهائڻ وقت عملي سرگرمين جهڙوڪ سوال ڪرڻ، يا تجسس پري جاچ حاصل ڪرڻ جي جستجو ۽ عادت پيدا ڪرڻ لاءِ شاگرد کي همٿائڻ گهرجي.
٤. سبق جي تدريس کان شاگردن کان سبق پوءِ سبق بابت سوال ڪرڻ گهرجن ته جيئن سبق جو مقصد درست انداز ۾ سمجهي سگهن.
٥. تدريس جو طريقو سولي کان سولو اختيار ڪيو وڃي.
٦. پڙهائڻ ۽ سيکارڻ وقت عملي، بياني، بحث ۽ مباحثو ۽ تحريري وغيره طريقا استعمال ۾ آندا وڃن.

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BIOLOGY - IX

Chapter	Topic(s)
1. **Introduction to Biology**	1. Definition of Biology 2. Division & Branches of Biology 3. Relationship of Biology with other Sciences 4. Quran Instructs to reveal the study of life 5. The level of organization

2. **Solving a Biological Problems**	1. Biological Methods/Scientific Problem
	   ✓ Observation
	   ✓ Hypotheses
	   ✓ Deductions
	   ✓ Experiments
	   ✓ Result
	   ✓ Theory, Law and Principle

3. **Biodiversity**	1. Definition and Introduction of Biodiversity 2. Aims & Principles of Classification 3. The Five Kingdoms Classification 4. Binomial Nomenclature 5. Conservation of Biodiversity
4. **Cells and Tissues**	1. Microscope and Emergence of Cell Theory 2. Cellular Structures and Functions 3. Difference in prokaryotic and eukaryotic cells 4. Diffusion 5. Osmosis 6. Exocytosis 7. Endocytosis 8. Animal tissues 9. Plant tissues
5. **Cell Cycle**	1. Chromosomes Structures and Function 2. Mitosis 3. Necrosis and Apoptosis 4. Meiosis
6. **Enzymes**	1. Definition and Characteristics of Enzymes
7. **Bioenergetics**	1. Introduction and Role of ATP 2. Photosynthesis 3. Respiration 4. Aerobic Respiration, Anaerobic Respiration.

8. Nutrition	1. Introduction of Nutrition 2. Heterotrophic Nutrition 3. Digestion in Man
9. Transport	1. Transport in Plants 2. Transpiration and its Significance 3. Transport in Animals 4. Transport in Man 5. Blood Disorders 6. Human Heart

Guide Lines for teachers for effective teaching:

1. Locate, select, organize and present relevant information from variety of sources.
2. Try to develop relationship among the remaining topics.
3. Guide students to understand scientific concepts & Terminology.
4. Use different teaching strategies to cover given topics in limited time.
5. Ensure that the students understand the concept(s) and processes.
6. Use appropriate Tools and techniques for teaching in Biology.

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COMPUTER SCIENCE – IX(New Textbook)

Chapter/ Theme	Topic(s)
1. Fundamentals of Computer	- Introduction to Computer - Generations of Computer - Classification of Computer - Describe Computer Hardware (Full) - Basic Operations of a Computer - Computer Software (System Software, Application Software)
2. Fundamentals of Operating System	- Introduction of Operating System - Functions of Operating System
3. Office Automation	- MS Word - Page Layout Tab - Page Setup Group - Page Background Group - Paragraph Group - Arrange Group - Typing in Urdu and Sindhi Language - MS EXCEL - Ms Excel User Interface - Formulas - Charts
4. Data Communication and Computer Networks	- Basic Terminologies of Data Communication - Components of Communication System - Properties of Good Communication - Basics of Computer Network - Fundamental of Topologies - Difference between Physical Address and Logical Address
5. Computer Security and Ethics	- Importance of Computer Security - Cyber Crime - Computer Crime in Real Life (Hacking, Credit and Debit Card Scam)
6. Web Development	- Basic Terminology of Web Development - Definition of Terms - Introduction to HTML - Steps Involved in creating Web Page in HTML - HTML Tags - Designing and Formatting
7. Introduction to Database System	- Database - Database Management System (DBMS) - Basic Components of DBMS - Steps for Creating Table Using Design View

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CHEMISTRY - IX

Chapter	Chapter Name	Topics
01	Fundamentals of Chemistry	1.1 What is Chemistry (Definition and its Importance) 1.4 Branches of Chemistry
02	Chemical Combination (Complete Chapter with Numerical)	2.1 Laws of Chemical Combination 2.2 Atomic mass (only Subtopics 2.2.2, 2.2.3 and 2.2.4) 2.3 The Mole (problem) 2.4 Chemical reaction or Chemical Change (Only Subtopics 2.4.1, 2.4.2. 2.4.3. 2.4.4 and 2.4.5)
03	Atomic Structure	3.3 Rutherford's Atomic Model 3.4 Atomic Number (Z) and Mass Number (A) (Only Subtopics 3.4.1) 3.5 Electronic Configuration based on Bohr's Model
04	Periodicity of Elements	4.1 The Search for a Classification (Only sub topic 4.1.5, 4.1.6 and 4.1.7) 4.2 Some Periodic Properties of Atoms
05	Chemical Bonding	5.1 Introduction 5.2 Formation of Chemical Bonds 5.3 Types of Chemical Bonds 5.4 Ionic Bond or Electrovalent Bond 5.5 Covalent Bond 5.6 Co-Ordinate Covalent Bond or Dative Covalent Bond
06	State of Matter	6.1 Common State of Matter 6.2 Diffusion in Gases and Liquids
07	Solution and Suspension	7.1 Solution 7.2 Factors Affecting Solubility 7.5 Strengths of a Solution
08	Electrochemistry	8.1 Electrolyte & Non-Electrolyte 8.3 Faraday's Law of Electrolysis
09	Acids, Bases and Salts	9.2 Properties of Acids & Bases (Only properties) 9.4 Salts (Only Types of Salts) 9.5.2 The Concept of pH with Numerical
10	Chemical Energetics	Condensed full chapter b/c it will be covered in XI

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MATHEMATICS- IX

Unit	Topics & Exercises
Unit 1: Sets	Complete Unit with all Exercises (1.1 to 1.4)
Unit 2: System of Real numbers, exponents and radicals	Complete Unit with all Exercises (2.1 to 2.8)
Unit 3: Logarithms	3.3 Definition of Logarithm Exercise 3.2 3.6 Common Logarithms Exercise 3.4 3.7 Antilogarithms Exercise 3.5 3.8 Applications of Logarithms and Computations (Ex: 3.6)
Unit 4: Algebraic Expressions	4.1 Variables and Consonants 4.2 Coefficient 4.3 Algebraic Expressions 4.4 Kinds of Algebraic Expressions 4.5 Classification of Polynomials Exercise 4.1 4.6 Order of the Algebraic Expressions Exercise 4.2, 4.4 4.10 Formulae and their ApplicationExercise 4.6, to 4.10
Unit 5: Factorization, HCF, LCM, Simplification & Square Roots	5.2 Factors of the Expressions Reducible to the Form $a^2 - b^2$ Exercise 5.2 5.3 Factors of the Expressions of the types $ax^2 + bx + c$ Exercise 5.3 5.4 Factors of the Expressions of the $a^3 \pm b^3$ (Exercise 5.4) 5.5 Factors of the Expressions of the types $a^3 + b^3 + c^3 - 3abc$ Exercise 5.5 5.8 Highest Common Factor(Exercise 5.8) 5.9 Least Common Multiple (LCM) of Polynomials Exercise 5.10, Exercise 5.14
Unit 7: Matrices	Complete Unit with all Exercises (7.1 to 7.5)
Unit 11: Fundamental Concepts of Geometry	Complete Unit with Exercise 11.1
Unit 12: Demonstrative Geometry	Theorems on lines and polygons Methods of Proof Theorems 1 to 5 with their related exercises (12.1 to 12.5)

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PHYSICS- IX

UNIT	TOPIC
1.Introduction	1. What is PHYSICS? 2. Importance of PHYSICS in daily life.
2.Measurement	1. Physical quantities 2. Measuring instruments (Vernier caliper, micrometer screw gauge, Measuring cylinder)
3.Kinematics of linear motion	1. Rest & motion 2. Types of motion 3. Distance & Displacement 4. Speed 5. Velocity 6. Acceleration 7. Equations of motion
4.Motion & force	1. Force 2. Newtons laws of motion 3. Mass & weight 4. Momentum
5.Vectors	1. Introduction (scalar, vectors) 2. Vector representation 3. Resolutions of vectors
6.Equilibrium	1. Torque or moment of a force 2. Centre of gravity 3. Conditions of equilibrium 4. States of equilibrium
7.Circular motion & Gravitation	1. Uniform circular motion 2. Centripetal acceleration 3. Centripetal force 4. Law of universal Gravitation 5. Mass of Earth 6. Variation of 'g'decreases with altitude
8.Work, Power & Energy	1. Work 2. Power 3. Energy 4. Kinetic energy 5. Gravitational potential Energy

9.Properties of Matter	1. Elasticity
	2. Hooks law applied to a helical spring
	3. pressure
	4. Pascals law
	5. Application of pascal law (hydraulic lift)
	6. Archimedes principle
	7. Analytical treatment of Archimedes principle
	8. Buoyancy & law of floatation
	9. Kinetic molecular theory of matter
10.Heat	1. Temperature
	2. General features of a thermometer
	3. Mercury in glass thermometer
	4. Thermal expansion
	5. Linear thermal expansion of solids
	6. Volume thermal expansion
	7. Anomalous expansion of water
	8. Boyles law
	9. Charles law
	10. General gas equation
	11. Heat capacity
	12. Specific heat capacity

GUIDELINE FOR TEACHER FOR EFFECTIVE TEACHING:

- The above enlisted topics & their relevant problems are included in the course
- Practical work related to concerned above topics should be performed

SSC PART-II

GRADE – X

ANNEXURE-B-I

ENGLISH -X

Lesson No.	Lesson Name
01	The Voice of God (Poem)
02	The Wise Caliph
04	Little Things (Poem)
7	From a Railway Carriage (Poem)
8	Dignity of Work
10	Beautiful Hands (Poem)
11	A Village Fair
14	The Hand that Rock the Cradle (Poem)
15	An African Village
16	King Bruce and the Spider (Poem)
17	The Inheritors
18	Casabianca (Poem)
19	The Khyber Pass
24	There is a Good Time Coming (Poem)
25	The Customs of Various Regions of Pakistan

Guidelines for Effective Teaching:

➢ Grammar and language activities may be developed according to age and grade level of students. Grammar may be developed as per Board assessment.

➢ Activities/Exercises Questions at the end of unit may be used for assessing the students' progress according to condensed course during formative or summative assessment. A balanced test may be developed in accordance to target Language.

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ASAN SINDHI -X

مضمون/نظم نمبر	عنوان
1	حجة الوداع وارو خطبو(خلاصو، مشقون ۽ لاڳاپيل گرامر)
2	حضرت سلمان فارسي رضي الله تعالى عنہُ (خلاصو،مشقون ۽ لاڳاپيل گرامر)
19	آهيون الف آسري، محمد مجيوسون (حوالو، سمجهاڻي ۽ لاڳاپيل گرامر)
3	حضرت امام جعفر صادق عليہ السلام (خلاصو،مشقون ۽ لاڳاپيل گرامر)
4	قائداعظم رحمة الله عليہ جا ارشاد (مشقون ۽ لاڳاپيل گرامر)
21	دعا (مشق، حوالو، سمجهاڻي، ۽ لاڳاپيل گرامر)
8	هنر دولت آهي (خلاصو،مشقون ۽ لاڳاپيل گرامر)
9	خط(مشقون ۽ لاڳاپيل گرامر)
22	سچل سرمستؒ (حوالو، سمجهاڻي۽ لاڳاپيل گرامر)
11	اجرڪ (خلاصو، مشقون ۽ لاڳاپيل گرامر)
13	ڪينجهر ڍنڍ (خلاصو،مشقون ۽ لاڳاپيل گرامر)
24	بنايون سُڪ جو ڪو سنسار (حوالو، سمجهاڻي۽ لاڳاپيل گرامر)
15	رڍ پچاءُ (خلاصو،مشقون ۽ لاڳاپيل گرامر)
	خط ۽ درخواست
	مضمون
	بيهڪ جون نشانيون
	لفظن جو ذخيرو
	پنهنجا خيال تحرير ڪرڻ وغيره

استادن لاءِ هدايت:. استاد پنهنجي مهارت جي بنياد تي تجويز ڪيل ڪورس کي پڙهائي ۽ روزانو جي بنياد تي جائزو به وٺندو رهي ته جيئن بهتر نتيجا حاصل ڪري سگهجن.

استاد بار کي گهرو ڪم پڻ ڏئي ،جيئن شاگرد پنهنجي صلاحيتن کي اجاگر ڪري سگهن.

نوٽ: تجويز ڪيل نثر ، نظم جي پاڳن ۽ گرامر مان امتحان ورتو وجي.

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ASAN URDU -X

جماعت وار تلخیصی کورس (نصاب اُردو کے مطابق)   آسان اُردُو برائے نویں جماعت

1. **زبان شناسی / قواعد**
   - اسم خاص اور اسم عام میں تمیز کرسکیں۔
   - سادہ جملے بنانے پر عبور حاصل کرسکیں۔
   - سادہ جملوں کو زمانہ ماضی، حال اور مستقبل کے لحاظ سے تبدیل کر سکیں۔
   - رموز اوقاف کا درست استعمال کر سکیں۔
   - عام موضوعات پر سادہ اور مختصر کہانی لکھ سکیں۔
   - مختلف موضوعات پر تین سے چار پیراگراف لکھ سکیں جو مربوط اور منظم ہوں۔
   - مختلف پیشوں سے متعلق اپنے احساسات و خیالات گیارہ سے پندرہ جملوں میں تحریر کر سکیں۔

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MATHEMATICS -X

Unit	Topics & Exercises
Unit 1: Sets	Complete Unit with all Exercises (1.1 to 1.4)
Unit 2: System of Real Numbers, Exponents and Radical	Complete Unit with all Exercises (2.1 to 2.8)
Unit 3: Logarithms	3.3 Definition of Logarithm Exercise 3.2 3.6 Common Logarithms Exercise 3.4 3.7 Antilogarithms Exercise 3.5 3.8 Applications of Logarithms and Computatio... Exercise 3.6
Unit 4: Algebraic Expressions	4.1 Variables and Consonants 4.2 Coefficient 4.3 Algebraic Expressions 4.4 Kinds of Algebraic Expressions 4.5 Classification of Polynomials Exercise 4.1 4.6 Order of the Algebraic Expressions Exercise 4.2. 4.4 4.10 Formulae and their Application Exercise 4.6 to 4.10
Unit 5: Factorization, HCF, LCM, Simplification and Square Roots	5.2 Factors of the Expressions Reducible to the Form $a^2 - b^2$ Exercise 5.2 5.3 Factors of the Expressions of the types $ax^2 + bx + c$ Exercise 5.3 5.4 Factors of the Expressions of the $a^3 \pm b^3$ (Exercise 5.4) 5.5 Factors of the Expressions of the types $a^3 + b^3 + c^3 - 3abc$ Exercise 5.5 5.8 Highest Common Factor Exercise 5.8 5.9 Least Common Multiple (LCM) of Polynomials Ex:5.10, 5.14
Unit 6: Algebraic Sentences	6.3: Solution of the equations involving radicals in one variable. Ex:6.3 6.4: Solution of equation of one variable involving absolute value. Exercise : 6.4 6.5 Inequalities or Inequations Exercise : 6.5 6.6: Quadratic equation in one variable. 6.7: Solution of the Quadratic equation by factorization, Ex: 6.6 6.8: Solution of quadratic equations by computing the squares. Ex. 6.7 6.10 Solution of Quadratic Equations by Quadratic Formula Ex: 6.8
Unit 7: Matrices	Complete Unit with all Exercises (7.1 to 7.5)
Unit 8: Elimination	Complete Unit with Exercise 8.1
Unit 11: Fundamental Concepts of Geometry	Complete Unit with Exercises 11.1
Unit 12: Demonstrative Geometry	Theorems on lines and polygons Methods of Proof Theorems 1 to 5 with their related exercises (12.1 to 12.5)
Unit 13: Circle	Exercises 13.1
Unit 14:Practical Geometry	Exercise 14.2
Unit 15: Trigonometry	Complete Unit with all Exercises (15.1 to 15.5)

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PHYSICS -X

UNIT	TOPIC
1. Introduction	1. What is PHYSICS? 2. Importance of PHYSICS in daily life.
2. Measurement	1. Physical quantities 2. Measuring instruments (Vernier caliper, micrometer screw gauge, physical balance)
3. Kinematics of linear motion	1. Rest & motion 2. Types of motion 3. Distance & Displacement 4. Speed 5. Velocity 6. Acceleration 7. Equations of motion
4. Motion & force	1. Force 2. Newtons laws of motion 3. Mass & weight 4. Momentum
5. Vectors	1. Introduction(scalar,vectors) 2. Vector representation 3. Resolutions of vectors
6. Equilibrium	1. Torque or moment of a force 2. Centre of gravity 3. Conditions of equilibrium 4. States of equilibrium
7. Circular motion & Gravitation	1. Uniform circular motion 2. Centripetal acceleration 3. Centripetal force 4. Law of universal Gravitation 5. Mass of Earth 6. Variation of 'g' decreases with altitude
8. Work, Power & Energy	1. Work 2. Power **3.** Energy 4. Kinetic energy 5. Gravitational potential Energy
9. Simple machines	N.B: **This Chapter may be skipped (Excluded)**
10. Properties of Matter	1. Elasticity 2. Hooks law applied to a helical spring 3. pressure 4. Pascals law 5. Application of pascal law (hydraulic lift) 6. Archimedes principle 7. Analytical treatment of Archimedes principle 8. Buoyancy & law of floatation 9. Kinetic molecular theory of matter

11.Heat	1. Temperature 2. General features of a thermometer 3. Mercury in glass thermometer 4. Thermal expansion 5. Linear thermal expansion of solids 6. Volume thermal expansion 7. Anomalous expansion of water 8. Boyles law 9. Charles law 10. General gas equation 11. Heat capacity 12. Specific heat capacity
12.Waves & sound	1. Simple harmonic motion 2. Example of simple harmonic motion (simple pendulum) 3. Wave motion 4. Characteristics of wave 5. How sound is produced? 6. Velocity of sound
13.Propagation & reflection of light	1. Reflection of light 2. Laws of reflection 3. Regular & irregular reflection 4. Mirror formula (equation for spherical mirrors)
14.Refraction of light & optical instruments	1. Refraction of light 2. Refraction of light through prism 3. Lenses 4. Thin lens formula 5. Magnification 6. Optical instruments (human eye)
15.Nature of light &electromagnetic spectrum	1. Quantum theory & dual nature of light 2. The spectrum
16. Electricity	3. Insulator & conductor 4. Coulombs law 5. Electric field 6. Capacitor 7. Electromotive force (e.m.f) 8. Electric current 9. Resistance 10. Ohms law
17.Magnetism & electromagnetism	1. Magnetic force 2. Magnetic field 3. Force on a current carrying conductor in a magnetic field
18. Electronics	1. N-type and p-type substances 2. P-n junction diode
19.Nuclear Physics	1. Natural radioactivity 2. Alpha beta & gamma rays 3. Nuclear fission 4. Nuclear fusion

NB: The above enlisted topics & their relevant Practical and problems are included in the course.