ACADEMIC CALENDAR

GRADE XI-XII

Academic Year 2020-21

Directorate of Curriculum & Teacher Education (DCTE)
Khyber Pakhtunkhwa, Abbottabad

Directorate of Curriculum and Teacher Education
Khyber Pakhtunkhwa, Abbottabad
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Dated Abbottabad the, 23.11.2020.

Notification

No. 5171-5178/AD(C&TR): In exercise of the power conferred upon him under the Khyber Pakhtunkhwa Supervision of Curricula, Textbooks and Maintenance of Standard of Education Act. 2011, and consequent upon the recommendations of the subject experts notified vide this Directorate order No: 5017-27/AD(C&TR) dated: 12/11/2020, the Directorate of Curriculum & Teacher Education Khyber Pakhtunkhwa Abbottabad being Competent Authority, is pleased to notify the Accelerated Academic Calendar for Grades XI-XII for the Academic Calendar year 2020-21 only.

2. All the Higher Secondary Schools / Colleges and private institutions in Khyber Pakhtunkhwa shall follow this Accelerated Academic Calendar (XI-XII) for the academic session 2020-2021.

3. All Boards of Intermediate and Secondary Education Khyber Pakhtunkhwa shall follow the Accelerated Academic Calendar of Grades XI-XII for the intermediate level examinations for the session 2020-21 only.

DIRECTOR

Endst: of even No. & date.

Copy for information to:

1. The Secretary to Govt; of Khyber Pakhtunkhwa Elementary & Secondary Education Department, Civil Secretariat Peshawar.
2. The Secretary to Govt; of Khyber Pakhtunkhwa Higher Education, Archives and Libraries Department, Civil Secretariat Peshawar.
3. The Director, Elementary and Secondary Education Khyber Pakhtunkhwa Peshawar.
4. All Chairman BISEs Khyber Pakhtunkhwa.
5. The Chairman, Khyber Pakhtunkhwa Textbook Board Hayatabad Peshawar.
6. The Director General, Education Monitoring Authority Khyber Pakhtunkhwa Shami Road, Peshawar.
7. The Director General Information and Public Relations Khyber Pakhtunkhwa Peshawar.
8. Managing Director, Private Schools Regulatory Authority Khyber Pakhtunkhwa Peshawar.
9. Section Officer (B&T), E&SE Department Peshawar
10. PA to Director local office.

ZULFIQAR KHAN TANOLI
ADDITIONAL DIRECTOR (C&TR)

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PREFACE

Preface

Life is completely crippled by pandemic covid-19 in all respects. World is affected badly by this pandemic where governments all over the world had to lock down almost all the institutions country wide. Pakistan had to face the same situation in almost all institutions in general and educational institutions in particular due to their closure for almost seven months. Our country is still facing the worst situation due to the second wave of covid-19 and there is complete uncertainty about future course.

Keeping in view this worst situation the Government of Khyber Pakhtunkhwa Elementary and secondary education Department has taken an initiative of introducing an accelerated academic calendar for educational institutions to cater the needs of the students in the prevailing scenario. The Directorate of Curriculum and Teacher Education (DCTE) being competent authority has the task of reducing the Higher Secondary School Certificate (HSSC) syllabus. Consequently, this Directorate arranged a workshop. Subject Experts from the various educational institution both from collages and School were invited for the preparation of this accelerated syllabus. This accelerated syllabus is prepared in light of the expected available time for students in the prevailing situation. It was also kept in mind that the basic concepts and ideas of all subjects must not be affected. It is hoped that this accelerated academic calendar will be helpful to students in all respects in fulfilling their study requirements.

I am thankful to all the Subject Experts of various institutions who participated in this activity by offering their expertise on short notice, I acknowledge and appreciate their efforts in this regard. I also appreciate the efforts DCTE personnel in completion of this urgently needed national task on emergency grounds.

Gohar Ali Khan
Director
Curriculum and Teacher Education
Khyber Pakhtunkhwa, Abbottabad

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ہدایات برائے اساتذہ کرام

1۔ یہ تعلیمی کیلنڈر COVID-19 کی وبا کی وجہ سے صرف 21- 2020 کے لیے استعمال کیا جائے گا۔ اگلے تعلیمی سال سے تدریسی عمل حسب معمول ہو گا۔

2۔ صرف اس تعلیمی کیلنڈر میں شامل تصورات، عنوانات، ذیلی عنوانات اور عملی کام ہی کا مواد پڑھایا جائے گا۔

3۔ درسی کتاب میں موجود مشقوں کی نشاندہی کر دی گئی ہے جو اس تعلیمی کیلنڈر میں شامل ہیں۔

4۔ جن مضامین کے ساتھ عملی کام (Practical) لازمی ہیں، ان میں سماجی فاصلے کا خیال رکھا جائے۔

5۔ تمام درسی مواد میں جہاں کہیں بھی حضور پاک صلی اللہ علیہ وسلم کا اسمِ مبارک آجائے تو اس کو رسول اکرم خاتم النبیین محمد رسول اللہ صلی اللہ علیہ وآلہ وسلم لکھا اور پڑھا جائے۔

ہدایات برائے سالانہ پرچہ جات

- بورڈ کے سالانہ امتحانات پرچہ برائے 21-2020 اسی تعلیمی کیلنڈر میں دیے گئے مواد (Content) پر ہی مشتمل ہوں گے۔

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ACCELERATED ACADEMIC CALENDAR FOR HIGHER SECONDARY CLASSES

Education systems in most countries have been adversely affected by COVID-19, and has prompted widespread country-wide school//college closures and physical distancing measures, likewise in Pakistan, and specifically in Khyber Pakhtunkhwa Province.

Talking specifically of Khyber Pakhtunkh, for an enhanced education system-level response to the pandemic, The Elementary & Secondary Education Department, Government of Khyber Pakhtunkhwa undertook substantial steps to ensure continuity of learning in an equitably. An important step taken by the E&SED is the Development of Accelerated Academic Calendar for the Higer Secondary classes.

The Boards of Intermediate and Secondary Education in Khyber Pakhtunkhwa and other stakeholders highlighted the need for the development of Accelerated Academic Calendar (ACC) at the Higher Secondary level classes i.e. 11^{th} and 12^{th}. These classes have also suffered in terms of time lost, the same way as the lower grades. The students are at the decisive entry point in pursuit of their academic career as they have to appear for the Board Examination. For this academic session, the teaching learning time available is less than the normal routine.

Since this is a critical and complex level, with a complicated vertical and horizontal alignments and closely knit progression of the course contents in each subject, it cannot be left to the teachers to pick and choose the topics to be dropped or taught to the students. There is a need for carefully and technically reviewing the course contents, and the Academic Calendar, by the Subject Experts, and decide the selection of content to be taught to students in the shortened time period, without disturbing its alignment.

As this is high stake intervention, which will enable the teachers to make effective and efficient use of the time available and cover all the essential course contents, and help students to be able to show good performance in summative assessment and examination. It will be mandatory for BISEs set the papers on the topics/contents mentioned in the AAC for the session 2020-2021.

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TABLE OF CONTENTS

Grade-XI	XI	XII
Englihs	1-2	52-53
Urdu (Compulsory)	3-4	54-55
Islamiat (Compulsory)	5-6	---
Paksitan Studies	---	56-58
Physics	7-9	59-62
Biology	10-14	63-69
Chemsitry	15-18	70-75
Mathematics	19-22	76-79
Statistics	23-25	80-82
Economics	26-27	83-84
Computer Science	28-30	85-87
Health & Physical Education	31	88
Home Economics	32-33	89
General Mathematics	34-36	90-93
Islamic Studies	37-38	94-95
Civics	39-40	96-97
Islamic History	41-43	98-100
Home Economics Group	44-46	101-103
Urdu Advance	47	104
Pashto	48-49	105-106
Library Science	50	107
Geography	51	108

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ENGLISH-XI

S. No	Title of Unit	Status	
		Content Retained/Included	**Content Excluded/Removed**
1.	Responsibility of Youth	Retained (Except two comprehension questions)	Comprehension Question No. 7 & 8 are excluded (Page No. 06 & 07)
2.	His First Flight	Retained	Nil
3.	Good Timber (Poem)	Retained	Nil
4.	From Mother With Love	Nil	Excluded along with complete exercise (Page No.30 – 46)
5.	It's Country for Me	Retained (along with complete exercise)	Nil
6.	Mother to Son (Poem)	Retained (Except two comprehension questions)	Comprehension Question No. 2 & 6 are excluded (Page No. 58)
7.	Choice of Career	Retained (Except two comp. questions)	Comprehension Question No. 5 & 6 are excluded (Page No.70)
8.	Wasteland	Nil	Excluded along with complete exercise (Page No.75 – 81)
9.	White Lamb	Retained (Except two comprehension questions)	Comprehension Question No. 5 & 8 are excluded (Page No.90)
10.	the World is Too Much With us (Poem)	Retained (Except two comprehension questions)	Comprehension Question No. 1 & 4 are excluded (Page No.95)
11.	The Importance of family	Nil	Excluded along with complete exercise (Page No.100– 110)
12.	The Blanket	Retained (Except two comprehension questions)	Comprehension Question No. 6 & 7 are excluded (Page No.116)
13.	Ozymandias (Poem)	Retained (Except four comprehension questions)	Comprehension Questions No. 1, 2, 6 & 7 are excluded (Page No.122)
14.	A Long Walk Home	Retained (Except two comprehension questions)	Comprehension Question No. 4 & 9 are excluded (Page No.131)
15.	University Days	Nil	Excluded along with complete exercise (Page No.137 –145)
16.	School VS Education	Nil	Excluded along with complete exercise (Page No.146 – 151)

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17.	What you Do is What You are	Retained (Except two comprehension questions)	Comprehension Question No. 3 & 5 are excluded (Page No.156)
18.	A Dream Within a Dream (Poem)	Nil	Excluded along with complete exercise (Page No.159 – 166)
19.	Drug Abuse in Youth of Pakistan	Retained (Except one comprehension questions)	Only comprehension Question No. 2 is excluded (Page No.172)
20.	How to Take a Job Interview	Nil	Excluded along with complete exercise (Page No.176 – 195)
21.	The Road Not Taken (Poem)	Nil	Excluded along with complete exercise (Page No.196 – 202)
22.	The Progress	Retained (Except six comprehension questions)	Comprehension Question No. 01, 05, 06, 07, 08 & 11 are excluded (Page No.226)

Note:
Character sketche(s) in the play should be dealt as a separate long question.

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URDU (COMPULSORY)-XI

حصّہ نثر			
نمبر شمار	درسی کتاب کا صفحہ نمبر	عنوان	مصنف
۱	۱تا۹	اپنی مدد آپ	سر سید احمد خان
۲	۱۵تا۲۱	نظریۂ پاکستان	ڈاکٹر غلام مصطفیٰ خان
۳	۲۹تا۳۵	کچھ ادب کے بارے میں	ڈاکٹر عبادت بریلوی
۴	۴۱تا۵۲	داروغہ جی کی پانچوں گھی میں اور سر کڑاہی میں	رتن ناتھ سرشار
۵	۵۳تا۶۱	آنگن	خدیجہ مستور
۶	۷۱تا۸۳	تعلیمِ بالغاں	خواجہ معین الدین
۷	۸۴تا۹۳	شیراز اور کنارِ آب رکنابادوغیرہ	ابنِ انشا
۸	۱۰۴تا۱۰۵، ۱۰۷(مع مشق)	مکتوب نگاری (تعارف) بنام مرزا حاتم علی بیگ مہر (خط نمبر ۱)	مرزا غالب
	۱۱۰تا۱۱۲(مع مشق)	والد گرامی (شیخ نور محمدؒ) کے نام (خط نمبر ۲)	علامہ اقبالؒ
حصّہ نظم			
۱	۱۱۴تا۱۱۶	حمد	ماہر القادری
۲	۱۱۷تا۱۱۹	نعت	محسن کاکوروی
۳	۱۲۴تا۱۲۶	شہزادے کا چھت پر سونا اور۔۔۔۔(مثنوی)	میر حسن
۴	۱۲۷تا۱۳۰	دُرِ مراد (مرثیہ)	میر انیس
۵	۱۳۵تا۱۳۸	اُمید (مسدس)	الطاف حسین حالی
۶	۱۴۶تا۱۴۹	پرانا کوٹ	سید محمد جعفری
۷	۱۵۳تا۱۵۵	قطعات	مرزا محمود سرحدی
حصّہ غزل			
۱	۱۶۰تا۱۶۱، ۱۶۳تا۱۶۴	فقیرانہ آئے صدا کر چلے	میر تقی میر
۲	۱۶۵تا۱۶۷	قتلِ عاشق کسی معشوق سے کچھ دور نہ تھا	خواجہ میر درد
۳	۱۷۱، ۱۷۳تا۱۷۴	ہزاروں خواہشیں ایسی کہ ہر خواہش پہ دم نکلے	مرزا اسد اللہ خان غالب (مشقی سوالات غزل ۲ کے مطابق ہوں گے)
۴	۱۷۵تا۱۷۷	آئینہ اپنی نظر سے نہ جدا ہونے دو	داغ دہلوی

قواعد و انشا:

امدادی فعل، فعل کی فاعل سے مطابقت، قافیہ، ردیف، مطلع، مقطع، روزمرہ، محاورہ

علمِ بیان: تشبیہ، استعارہ، مجازِ مُرسل، کنایہ کی تعریف اور مثالیں

علمِ بدیع: صنعتِ تلمیح، صنعتِ تضاد، صنعتِ حسنِ تعلیل، صنعتِ مراعاۃ النظیر، صنعتِ تضمین، صنعتِ لف و نشر تعریف اور مثالیں

اصنافِ سخن: حمد، نعت، مثنوی، مرثیہ، نظم، غزل اور قطعات کی تعریف

مضمون، ناول، ڈراما، سفر نامہ اور مکتوب نگاری کی تعریف

انشا پردازی: مکالمہ / درخواست / خط / رسید

آپ بیتی

نوٹ: حذف شدہ اسباق، منظومات اور غزلیات کے مشقی سوالات میں موجود قواعد بھی شاملِ نصاب ہوں گے۔

ISLAMIYAT (COMPULSORY)-XI

باب نمبر	باب کا عنوان	مجوزہ عنوانات
باب اول	بنیادی عقائد	توحید:

- توحیدِ ذات وصفات
- شرک

رسالت:

- رسول کی ضرورت
- رسالت محمد صلی اللہ علیہ وعلیٰ آلہ واصحابہ وسلم اور اس کی خصوصیات

آخرت:

باب دوم اسلامی تشخص

- نماز
- روزہ
- زکوٰۃ
- حج (تعارف، جامعیت، فوائد)
- جہاد
- اللہ تعالیٰ اور رسول اللہ صلی اللہ علیہ وعلیٰ آلہ واصحابہ وسلم کی محبت واطاعت

حقوق العباد:

- والدین کے حقوق
- ہمسائیوں کے حقوق
- رشتہ داروں کے حقوق

معاشرتی ذمہ داریاں:

- محاسن اخلاق:
  - دیانتداری، سچائی، کسب حلال، ایثار
- اخلاقی رذائل:
  - غیبت، تکبر، حسد

باب سوم اسوۂ رسول اکرم ﷺ

- رحمۃ للعالمین
- اخوت
- مساوات
- عفوودرگزر
- فضائل قرآن مجید

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باب چہارم	تعارف قرآن و حدیث	• مکی اور مدنی سورتیں اور ان میں فرق • حفاظت و تدوین قرآن مجید • قرآن مجید کی خوبیاں • حدیث اور سنت • حدیث یا سنت کی شرعی حیثیت • منتخب آیات (مکمل) • منتخب احادیث (مکمل)

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PHYSICS -XI

Unit 1: Measurement

1.2. Supplementary units (Radian, Steradian)
1.5 Error
1.6 Uncertainty
1.8 Precision and accuracy
1.9 Dimensions of physical quantities

Unit 2: Vectors and equilibrium

2.5 Resolution of vectors
2.6 Addition of vectors by rectangular components
2.7 Product of vectors
2.9 Torque

Unit 3: Motion and force

3.8 Linear momentum
A. Newton's second law and linear momentum
B. Impulse and change of momentum
3.9 Collision
A. Elastic Collision
B. Inelastic Collision
C. Perfectly elastic collision in one dimension
3.11 Projectile motion

Unit 4: Work and energy

4.1. Work
4.1.1 Work done by constant force
4.1.2 Work done by a variable force
4.2 Work done in gravitational field
4.6 Absolute potential energy
4.7 Escape velocity
4.8 Work energy theorem in resistive medium

Unit 5: Rotational and circular motion

5.1 Angular motion
5.2 Relation between angular and linear quantities
5.3. Centripetal force and centripetal acceleration
5.3.1. Centrifugal force or reaction force (Banking of roads)
5.4 Torque and moment of inertia
5.5 Angular momentum and torque
5.6 Conservation of angular momentum
5.7 Kinetic energy of rotation
5.8 Rolling of disc and hoop down the inclined plane
5.9 The real and apparent weight

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Unit 6: Fluid Dynamics

6.1 Viscous fluid
6.2 Fluid friction and Stoke's law.
6.3 Terminal velocity, fluid flow
6.4 Equation of continuity

Unit 7: Oscillations

7.4 Circular motion and SHM
7.5 Simple pendulum
7.7 Resonance
7.10 Damped oscillation

Unit 8: Waves

8.3 Characteristics of progressive waves
- 8.3.1 Transverse waves
- 8.3.2 Longitudinal waves
- 8.3.3 Characteristics of waves

8.4 Speed of sound
- 8.4.1 Laplace correction
- 8.4.2 Effects of various factors on speed of sound in air

8.11 Transverse stationary waves in stretched string
8.14 Doppler's effect
- (i). Source is moving, listener is at rest
- (ii). Source is at rest and listener is moving
- (iii) When source and listener both move

Unit 9: Physical Optics

9.1 Nature of light
9.2 Wave front
9.3 Huygen's principle
9.4 Coherent sources
9.5 Interference of light
9.6 Young's double slit experiment
9.9 Diffraction of light
9.10 Diffraction at single slit
9.13 Polarization of light
- 9.13.3 Polarization by reflection

Unit 10: Thermodynamics

10.5 Thermodynamic system
10.6 Reversible and irreversible processes
10.7 First law of thermodynamics
- 10.7.1 Applications of first law of thermodynamics

10.8 Molar Specific heat of a gas
10.9 Heat engine
10.10 Second law of thermodynamics
10.13 Entropy

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Note: All MCQs, short questions and problems relevant to the above mentioned topics along with sub headings are included.

List of practical for grade XI

1. Measure length and diameter of a solid cylinder and hence estimate its volume quoting proper number of significant figures using Vernier callipers.
2. Determine the weight of a body by vector addition of forces.
3. Verify that the time period of the simple pendulum is directly proportional to the square root of its length and hence find the value of 'g' from the graph.
4. Determination of frequency of A.C by Melde's apparatus / electric sonometer.
5. Investigation of the laws of vibration of stretched strings by sonometer or electromagnetic method.
6. Determine the specific heat of a solid by electrical method.

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BIOLOGY-XI

Unit	Topic/Subtopic
1. CELL STRUCTURE AND FUNCTION	1.3 Cell Wall and Plasma Membrane 1.3.1 Cell Wall 1.3.2 Plasma Membrane 1.3.3 Role of Plasma Membrane 1.4 Cytoplasm 1.4.1 Cytoplasmic Organelles i. Endoplasmic Reticulum ii. Ribosomes iii. Golgi Apparatus (Dictyosomes) iv. Lysosomes v. Peroxisomes and Glyoxisomes vi. Cytoskeleton vii. Centrioles viii. Mitochondria ix. Plastids x. Nucleus **(Diploid and Haploid Number of Chromosomes are excluded)** 1.5 Prokaryotic and Eukaryotic Cell
2. BIOLOGICAL MOLECULES	Introduction 2.2 Biological Importance of Water 2.3 Carbohydrates 2.3.1 Monosaccharides 2.3.2 Oligosaccharides 2.4 Proteins 2.4.1 Structure of Amino Acids 2.4.2 Shape of Proteins 2.4.4 Functions of Proteins 2.5 Lipids 2.5.1 Acylglycerol 2.5.2 Phospholipids 2.6 Nucleic Acids 2.6.1 Nucleotides 2.6.2 Mononucleotides 2.6.3 Dinucleotide 2.6.4 Polynucleotides 1. Deoxyribonucleic Acid 2. Ribonucleic Acid 2.7 Conjugated Molecules
3. ENZYMES	3.1 Enzyme Structure 3.2 Mode of enzyme Action 3.2.1 Lock and Key Hypothesis 3.2.2 Induced-Fit hypothesis A. Reaction Mechanism B. Molecule Geometry C. Energy Changes 3.5 Factors that Affect the Rate of Enzyme Reactions 3.6 Feedback Inhibition

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4. BIOENERGETICS	4.1 Photosynthesis 4.1.1 The role of Sunlight in Photosynthesis 4.1.2 Photosynthetic Pigments a. Chlorophylls b. Carotenoids 4.1.3 Absorption Spectra of Chlorophylls and Carotenoids **(Definitions Only)** 4.1.4 Action Spectrum **(Definition Only)** 4.1.5 Role of CO2 as one of the raw materials of Photosynthesis 4.1.6 Role of Water in Photosynthesis 4.2 Mechanism of Photosynthesis 4.2.1 Light Reaction (Light dependent reaction) a. Non Cyclic Electron Transport Light Reaction b. Cyclic Electron Transport 4.2.2 Dark Reaction (Calvin Cyclic) (Light-independent reaction) 4.3 Respiration a. Glycolysis b. Conversion of pyruvate to Acetyl-CoA (Linked reaction) c. Kreb Cycle or Tricarboxylic Acid Cycle (TCA) d. Respiratory Electron transport Chain
5. ACELLULAR LIFE	5.2 Discovery of the viruses 5.3 Classification of Viruses 5.4 Structure of some Reproductive Viruses 5.4.1 Structure of Bacteriophage 5.6 Life Cyclic of a Bacteriophage a. Lytic cycle b. Lysogenic cycle 5.8 AIDS and HIV Infection 5.8.1 Life cycle of human immunodeficiency virus 5.8.2 Symptoms of HIV 5.8.3 Opportunistic Invasions 5.8.4 Treatment for AIDS 5.8.5 Prevention of AIDS and HIV Infection 5.9 Some other Viral Diseases a. Hepatitis **(Herpes, Polio and Leaf curl disease of cotton are excluded)**
6. PROKARYOTES	6.4 Bacteria 6.4.2 Structure of Bacteria 6.4.3 Size and Shape of Bacteria 6.4.5 Mode of Nutrition in Bacteria 6.4.7 Growth in Bacteria 6.4.8 Reproduction a. Asexual Reproduction b. Sexual Reproduction c. Transformation **(Transduction and Conjugation are excluded)** 6.5 Importance of Bacteria 6.9 Control of Harmful Bacteria

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7. PROTISTA AND FUNGI	Introduction 7.1 Protista a. Animal like protists (Protozoa) **(Zooflagellates, Amoeboid protozoan, Apicomplexes and Ciliates are excluded)** b. Plant lie Protists c. Fungus like Protists **(Importance of Protista to Humans is excluded)** 7.2 Kingdom Fungi 7.2.1 General Characteristics of Fungi 7.2.2 Classes of Fungi and their diagnostic Features 7.2.3 Importance of Fungi
8. DIVERSITY AMONG PLANTS	Introduction 8.2 Non- Vascular Plants 8.2.1 General Characteristics of Bryophytes 8.2.3 Land Adaptation by Bryophytes 8.3 General Characteristics of vascular plants (Tracheophytes) 8.4.2 Class 2: Gymnospermae 8.4.3 Class 3: Angiospermae 8.4.4 Life Cycle of Angiosperms
9. DIVERSITY AMONG ANIMALS	Introduction 9.1 Classification of Animals 9.3 Subkingdom Parazoa 9.3.1 Phylum Porifera 9.4 Subkingdom Eumetazoa a. Grade Radiate b. Phylum Coelenterata c. Grade Bilateria 1. Phylum Platyhelminthes 2. Phylum Aschelminths (Nematoda) 3. Phylum Mollusca 4. Phylum Annelida 5. Phylum Arthropoda **(Metamorphosis in Arthropoda is excluded)** 6. Phylum Echinodermata 8. Phylum Chordata
10. FORM AND FUNCTIONS IN PLANTS	10.1 Plant Nutrition 10.2 Role of stomata in Gaseous Exchange and Transpiration 10.3.3 Movement of water through roots 10.3.4 Water Movement in Xylem through TACT Mechanism 10.3.6 Translocation of Organic Solutes 10.6 Growth and Development in Plants 1. Apical meristem 2. Lateral meristem 10.7.2 Plants Movements 1. Turgor Movement 2. Growth Movements a. autonomic Movements b. Paratonic Movements c. Tropic movements **(ii. Nastic movements and iii. Tactic movements are excluded)**

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	10.7.4 Vernalization
11. DIGESTION	11.1 Mechanical and Chemical Digestion in the Oral Cavity 11.1.1 Swallowing process 11.1.2 Peristalsis 11.1.3 Food in stomach 11.1.4 Structure of stomach 11.1.5 Absorption in stomach 11.1.6 Functions of the stomach 11.1.7 Mechanism of secretion of gastric juice 11.2 Food in Small intestine 11.2.1 Function of the small intestine 11.2.2 Digestive function of the duodenum 11.2.3 Digestive function of the jejunum 11.2.4 Digestive function of ileum 11.2.5 Absorption of nutrients in the small intestine 11.3 Digestion in the large intestine 11.3.1 Structure of the large intestine 11.4 Liver 11.5 Pancreas 11.5.1 Structure of Pancreas 11.6 Relation of bile and pancreatic juice with the secretion hormone
12. CIRCULATION	12.1 Human Blood Circulatory System 12.1.1 Cardiac Cycle and Phases of Heartbeat 12.1.4 Blood Vessels 12.1.5 Path of Blood through Pulmonary and Systemic Circulation 12.1.6 Exchange of Material 12.1.7 Control of the Capillary Beds 12.3 Lymphatic System
13. IMMUNITY	13.1 First line of Defense 13.1.1 Physical Components of the Skin's Defense 13.1.2 Components of the Skin's Defense 13.1.3 Defense against Infection in the Digestive Tract 13.1.4 Cilia and Mucus 13.2 Second Line of Defense 13.2.1 Role of Macrophages and Neutrophils 13.2.2 Roles of Natural Killers (NK) Cells 13.2.5 Inflammatory response as one of the non-specific defenses 13.3 Third Line of Defense (The Specific Defense) 13.4 Basic types of Immunity 13.4.1 Types of acquired immunity 13.4.2 Vaccination a mean to develop active acquired immunity 13.5 Specific defense mechanisms 13.5.1 Structural Model of Antibodies

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BIOLOGY PRACTICALS-XI ACCORDING TO NATIONAL CURRICULUM 2006

CH 1. CELL STRUCTURE AND FUNCTION

- Examination of prepared slides of animal and plant cells

CH 2. BIOLOGICAL MOLECULES

- Performing Benedict's test for reducing sugars and confirmation of the presence of starch through Iodine test
- Confirmation of the presence of proteins through Biuret test
- Confirmation of the presence of lipids through Emulsion test

CH 3. ENZYMES

- Performing of chemical test to demonstrate that enzymes are proteins

CH 4. BIOENERGETICS

- Extraction of the leaf pigments and their separation by paper chromatography

CH 5. ACELLULAR LIFE

- No Practical Activity

CH 6. PROKARYOTES

- Study of Nostoc, Ocillatoria and Anabaena from fresh or preserved material

CH 7. PROTISTA AND FUNGI

- Observation and drawing labeled diagrams of the life cycle of black bread mold and *Penicillium* from fresh culture and prepared slides

CH 8. DIVERSITY AMONG PLANTS

- Identification of the vegetative and reproductive structure of *Funaria* by examining the fresh or preserved material
- Identification of the vegetative and reproductive structure of a local *fern* and *Pinus* and relate them with the concerned life cycles.
- Describing the flowers of Rose, *Cassia fistula/ Arabica, Solanum nigrum, Avena sativa and Petunia specie*

CH 9. DIVERSITY AMONG ANIMALS

- Classifying the given invertebrates into Phyla

CH 10. FORM AND FUNCTIONS IN PLANTS

- Demonstration of phototropism, geotropism and thigmotropism in plants

CH 11. DIGESTION

- Microscopic observation of the villi, liver and pancreas from prepared slides

CH 12. CIRCULATION

- Differentiation of an artery and a vein by observing prepared slides

CH 13. IMMUNITY

- Recognizing phagocytes and lymphocytes while observing prepared slides

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CHEMISTRY-XI

Note:

1. This reduced Syllabus is prepared only for the Current Academic session (2020-21) in the wake of COVID-19 scenario.
2. Only those MCQs and exercise questions related to the topics included in the reduced syllabus may be considered for Evaluation/Assessment.
3. Information/questions regarding Science and technology and self-assessment may not be considered for evaluation/Assessment.

Chapter 1: Stoichiometry

Introduction

1.1 Mole and Avogadro Number (NA)
1.2 Mole calculation
1.3 Excess and Limiting Reactant
1.4 Theoretical and Actual yield

Chapter 2: Atomic structure

Introduction

2.2 Bohr's Atomic Model and its application
2.2.1 Derivation of Radius, Energy, frequency, Wavelength, and Wave Number
2.2.2 Spectrum of Hydrogen Atom
2.2.3 Defects of Bohr's Atomic Model
2.3 Planck Quantum Theory
2.5 Quantum Numbers
2.5.1 Principal Quantum Numbers (n)
2.5.2 Azimuthal Quantum Numbers (l)
2.5.3 Magnetic Quantum Numbers (m)
2.5.4 Spin Quantum Numbers (s)
2.6 Electronic Configuration
2.6.1. Aufbau's Principle
2.6.2 Pauli Exclusion Principle
2.6.3 Hund's Rule
2.6.4 Electronic Configuration

Chapter 3: Theories of Covalent Bonding and shapes of Molecules

Introduction

3.1 Shapes of Molecules
3.1.1 Valence Shell Electron Pair Repulsion Theory (VSEPR)
Application of VSEPR theory
3.2 Theories of Covalent Bonding
3.2.1 Valence Bond Theory (VBT) and Hybridization
3.2.2 Molecular Orbital Theory (MOT)
Application of MOT
3.3.4 Dipole Moment

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Chapter 4: States of Matter I; Gases

Introduction

4.2.2 Graphical Explanation of Absolute Zero

4.3 Avogadro's Law

4.4.1 Derivation of Ideal Gas Equation

4.4.2 Gas Constant and its value

4.7 Dalton's Law of Partial Pressure

4.8 Graham's Law of Diffusion and Effusion

Experimental verification of Graham's Law of Diffusion.

Chapter 5: States of Matter II; Liquids

Introduction

5.2 Intermolecular Forces (Van der Waals Forces)

5.2.1 Dipole-Dipole Interaction

5.2.2 Hydrogen Bonding

Application of Hydrogen Bonding.

5.2.3 London Forces

5.3 Physical Properties of Liquids

3. Boiling Point.

Chapter 6 : States of Matter III: Solids

Introduction

6.2 Types of Solids

6.2.1 Amorphous Solids

6.2.2 Crystalline solids

6.3 Properties of Crystalline Solids

6.3.1 Symmetry

6.3.2 Geometrical Shape

6.3.3 Melting Point

6.3.4 Cleavage Plane

6.3.5 Habit of Crystal

6.3.6 Crystal Growth

6.3.7 Anisotropy

6.3.8 Isomorphism

6.3.9 Polymorphism

6.3.10 Allotropy

6.3.11 Transition Temperature.

Chapter 7: Chemical Equilibrium

Introduction

7.1.2 Law of Mass Action and Expression for Equilibrium Constant.

7.1.3 Relation between Equilibrium Constants (Kc, Kp, Kx, and Kn)

7.2 Factors Affecting Equilibrium

Le-Chatelier's Principle

7.2.1 Effect of Concentration

7.2.2 Effect of Change in Pressure or volume

7.2.3 Effect of Change in temperature

7.2.4 Effect of Catalyst on equilibrium

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Chapter 8: Acids, Bases and Salts

Introduction

8.4 Expressing the strength of Acids and Bases

8.4.1 Ionization Equation of Water

8.4.2 pH, pOH and Kw

8.4.3 Acid Ionization Constant Ka and pKa

8.4.5 Base Ionization Constant Kb and pKb

8.4.6 Relationship of Ka and Kb

8.6 Buffer Solutions and their Applications

Unit 9: Chemical Kinetics

Introduction

9.2.2 Specific Rate Constant

9.2.3 Order of Reaction and its Determination.

9.2.3.1 First Order Reaction

9.2.3.2 Second Order Reaction

9.2.3.3 Third Order Reaction

9.3 Collision theory, Transition state and Activation Energy

9.3.1 Activation Energy and Transition State

9.3.2 Collision theory of Rate reaction

Chapter 10: Solutions and Colloids

Introduction

10.2 Concentration units

10.2.2 Molarity

10.2.3 Molality

10.2.4 Mole Fraction (X)

10.2.5 Parts per million, billion and trillions

10.3 Raoult's Law

10.3.1 The solution of Volatile Solutes and Solvents (both Components are volatile)

10.3.2 Non-Volatile and Non-Electrolyte Solutes in Volatile Solvents

10.4 Colligative Properties of Dilute Solutions.

10.4.1 Vapor Pressure Lowering

10.4.2 Boiling Point Elevation and Freezing Point Depressions.

10.4.3 Molar mass determination by Vapor Pressure Lowering, Boiling Point Elevation, and Freezing Point Depression.

Chapter 11: Thermochemistry

Introduction

11.4 First law of Thermodynamics

11.5 Standard State and Standard Enthalpy changes

11.8 Hess's Law (Enthalpy change calculations)

Chapter 12: Electrochemistry

12.1 Oxidation- Reduction concepts

12.1.1 Oxidation and Reduction

12.1.2 Oxidation State or Oxidation Number

12.1.3 Recognizing Oxidation and Reduction Reactions.

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12.1.4 Balancing Redox Equations by Oxidation Number Method
12.1.5 Balancing the Redox Equations by the Half-Reaction Method
12.2 Electrodes, Electrode Potential and Electrochemical Series

List of Experiments for Reduced Syllabus (Chemistry-XI)

1. Standardization of a base solution (NaOH) against Standard Oxalic Acid solution.
2. Determination of Sodium Carbonate and Bi-Carbonate in the Mixture solution.
3. Determination of number of water molecules of crystallization in Mohr's salt. 39.2 g of which has been dissolved/liter.
4. Determination of concentration of the given solution of Potassium Dichromate.
5. Determination of heat of neutralization of strong acid (HCl) with a strong Base (NaOH)
6. The separation of various inks by Paper chromatography.
7. Crystallization of benzoic acid from water.

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MATHEMATICS-XI

In this special scenario of covid-19, the Syllabus of Mathematics G-XI has been shortened to reduce the laborious work of students practicing a lot of questions. Keeping all the contents intact, the teacher should assign extra questions/examples for homework to enhance the concept further. All relevant topic/subtopics should be addressed if possible, so that the students could be prepared for any type of tests.

Chapter 1	**Complex Number**
Page-3	Example-2
Page-5	Example-4
Exercise 1.1	Q1, (i, iv), Q.2, Q.3 (i, iii), Q.4(iii), Q.5 (ii, iii), Q.6 (i, iv), Q.7, Q.8 (i), Q.10
Page-11	Example-12
Page-16	Example -15 (ii, iv)
Exercise 1.2	Q.1,2,3,4,5,6,7 (ii, v), Q.8(i, ii, iii)
Page-22	Example-17
Page-23	Example-18
Exercise 1.3	Q.1 (i, ii), Q.2 (ii, iv), Q.4, Q.5 (i, iii), Q.6 (iii, iv)
Review Exercise-1	Q.1, Q.4, Q.7, Q.8

Chapter-2	**Matrices and determinants**
Page-37	Example-1
Page-38	Example-2
Exercise 2.1	Q.1 (ii, iv), Q.2, 4, 5, 6 (ii), Q.7, Q.8, Q.9 (i), Q.12
Page-44	Example-5
Page-46	Example-6
Exercise 2.2	Q.1, 3, 4 (i, iii), Q.5, Q.6 (i, iii, v), Q.7 (ii), Q.8, Q.10, Q.11 (ii), Q.12, Q.13 (iii), Q.15, Q.16, Q.19
Page-56	Example-8
Page-57	Example-9
Exercise 2.3	Q.1(iii), Q.2 (i, iii), Q.3 (ii)
Page-63	Example-11, Example-13
Exercise 2.4	Q.1(ii), Q.2 (i), Q.3 (ii), Q.4 (i), Q.5
Review Exercise-2	Q.1, Q.4, Q.5, 6, 7

Chapter-3	**Vectors**
Page-83	Example-5
Exercise 3.1	Q. 1,4,5,6
Page-86	Example-6
Page-89	Example-10
Page-93	Example-12 (iii, iv, vi)
Page-96	Example-13
Exercise 3.2	Q.1 (ii, v), Q.2 (ii, iv), Q.3, Q.5, Q.7 (iv), Q.8 (iii), Q.9,12, 13.
Page-100	Example-15
Page-102	Example-18
Page-103	Example-20
Page-104	Example-122
Exercise 3.3	Q.2, Q.3 (ii), Q.5, Q.6, Q.7 (ii), Q.8, Q.10

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Page-110	Example-24
Page-111	Example-25
Exercise 3.4	Q.1(iii), Q.2 (ii), Q.3 (iii), Q.5 (ii), Q.7, Q.8 (ii), Q.9 (ii)
Page-115	Example-27, 29
Exercise 3.5	Q.2, 4, 6, 7 (iii), Q.8 (ii), Q.9 (i)
Review Exercise -3	Q.1, 2, 6, 8.

Chapter-4	**Sequence and Series**
Exercise 4.1	Q.2 (i, ii), Q.4, Q.5 (i, iv), Q.6 (i, ii),
Exercise 4.2	Q.2, 3, 6, 8, 9, 14, 15,16,17
Page-130	Example-13
Page-131	Example-16
Page-132	Theorem
Exercise 4.3	Q.1, 2 (ii, iv), Q.4, 5,8, 9,13
Page-136	Example-23
Page-138	Example-25
Exercise 4.4	Q.1 (ii, iii), Q.3, 4, 6, 8 (ii, iii), Q.9,10, 11,12
Page-142	Example-29
Page-147	Example-36
Exercise 4.5	Q.1 (ii, v, vi), Q.2 (iii), Q.3, Q.4 (iii, iv), Q.5,8, 9, 11, 12, 13, 14
Page-151	Example-41
Page-154	Example-45
Exercise 4.6	Q.1 (iii), Q.3, 5, 7, 8, 10
Review Exercise -4	Q.1, 3, 5, 6, 10

Chapter-5	**Miscellaneous Series**
Page-159	Example-1 (i, iii)
Page-163	Example-4, 5
Exercise 5.1	Q. 2, 3, 5, 8, 9 (ii)
Page-165	Example-6
Page-166	Example-8
Exercise 5.2	Q.1 (ii, iv), Q.2 (i), Q.3, 5
Exercise 5.3	Q. 1,3, 5
Page-171	Example-13
Exercise 5.4	Q. 1 (ii, iv), Q.4
Review Exercise -5	Q. 1, 2, 5, 7 (ii), 8 (i, iv)

Chapter-6	**Permutation, combination and probability**
Page-177	Example-2
Exercise 6.1	Q.1 (i, iii), Q.2 (iii, iv), Q.3, Q.4
Page-182	Example-10
Exercise 6.2	Q.1, 2, 3, 4, 5, 6, 11, 12
Page-188	Example-17
Exercise 6.3	Q. 1, 2, 3, 4, 5
Exercise 6.4	Q. 1, 2, 5
Page-198	Example-24
Page-199	Example-25
Exercise 6.5	Q. 1, 2, 3, 4, 8, 9

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Review Exercise -6	Q,1, 2, 3. 7

Chapter-7	**Mathematical Induction and Binomial theorem**
Page-208	Example-3
Page-211	Example-6
Exercise 7.1	Q.2, 4, 5, 7, 9, 11, 12 (ii), 14, 15
Page-214	Binomial Theorem (7.2)
Page-218	Example-10
Page-219	Example-12
Exercise 7.2	Q. 1 (i, iii), Q.2 (iii), Q.3 (i, iii), Q. 4(i, iii), Q.5 (ii), Q.6, 8, 10
Page-222	Example-13
Page-223	Example-15
Page-224	Example-17 (i)
Page-227	Example-19
Exercise 7.3	Q.1 (iii), Q.2 (i, iii), Q.4, Q.6, Q.7, Q.9, Q.10 (ii), Q.11, Q.13
Review Exercise -7	Q.1, 3, 6

Chapter-8	**Functions and Graphs**
Page-233	Example-2
Page-235	Example-3
Page-237	Example-6
Exercise 8.1	Q.1 (iii, iv), Q.3, Q.5, Q.7
Page-249	Example-12
Exercise 8.2	Q. 1, 3
Page-252	Example-17
Exercise 8.3	Q. 1, 2, 3, 4
Review Exercise -8	Q. 1, 4, 7

Chapter-9	**Linear Programming**
Exercise 9.2	Q. 1 (i, iv), Q. 2, 3
Review Exercise -9	Q. 1, 2, 4

Chapter-10	**Trigonometric Identities of sum and difference of Angles**
Page-290	Example-1
Page-291	Example-3
Page-293	Example-6
Exercise 10.1	Q. 1 (v, vi), Q.2, Q.5, 7, 8 (iii, iv), Q.11, 12, 13
Page-297	Example-8
Page-300	Example-11
Page-302	Example-14
Exercise 10.2	Q. 1, 2 (iii), Q.3, 4, 5 (ii), Q.6 (ii, vi), Q.7 (ii, iii, iv, vi, vii, viii, ix, x, xiv, xv), Q.8. Q.9 (i, iii)
Page-307	Example-22, 23
Exercise 10.3	Q. 3, 4, 5
Review Exercise - 10	Q. 1, 2, 3, 6, 7, 8

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Chapter-11	**Application of Trigonometry**
Page-313	Example-2
Exercise 11.1	Q.2, 3, 4, 5, 6, 10
Page-317	**Theorem: Laws of cosines**
Page-320	**Theorem: Laws of sines**
Page-323	Example-13
Page-327	Example-14
Exercise 11.2	Q. 1 (i, ii, iii, viii), Q. 2 (i, ii), Q.6, Q.8
Page-330	Example-15
Page-331	Example-16
Exercise 11.3	Q. 1 (all parts)
Page-335	Example-20
Page-335	Example-21
Page-336	Example-23
Exercise 11.4	Q. 2, 3, 4, 5, 6
Review Exercise - 11	Q. 1, 3, 4, 5

Chapter-12	**Graphs of Trigonometric and Inverse Trigonometric Functions and Solution of Trigonometric Equations.**
Page-345	Example-1 (i, iii)
Page-346	Example-2 (ii, iii)
Page-352	Example-8
Exercise 12.1	Q. 1 (i, ii, iv, ix), Q.2 (i, iii)
Exercise 12.2	Q. 1,2
Page-369	Example-13
Page-379	Example-20
Page-380	Example-21
Exercise 12.4	Q. 1, 3, 4 (iii, iv)
Page-387	Example-26
Page-388	Example-28
Page-390	Example-31
Page-392	Example-32,33
Exercise 12.5	Q., 1, 2, 4, 6, 7, 8 (i, ii, iv, vii)
Review Exercise - 12	Q. 1, 2, 5

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STATISTICS-XI

Unit No 1: Collection and Presentation of Data

- Definition of Statistics.
- Population and Sample, Parameter and Statistic.
- Main Divisions of Statistics.
- Constant and Variables.
- Introduction to Scale of Measurements.
- Statistical data and its types.
- Presentation of data.
- Tabulation, Frequency distribution.
- Class Boundaries, Class Interval, Mid-Point of a Class.
- Frequency and Cumulative Frequency.
- Diagrammatic and Graphic representation of data.
- Bar charts in different forms namely; Simple, Divided & Pie charts.
- Mathematical proofs are not required.

Examples	1.2	1.4	1.5	1.7	1.9	1.11	1.13
Questions	1.4, 1.5, 1.6, 1.7, 1.10, 1.11, 1.12, 1.13, 1.14, 1.16, 1.18, 1.19, 1.22, 1.29						

Unit No 2: Measures of Central Tendency (MCT)

- Central Tendency and know what the measures of central tendency are?
- Average and list its types (Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean) and state the properties of an Ideal / Good average.
- The real life problems involving Arithmetic Mean. Calculation of Arithmetic Mean from Simple/Ungrouped Data, Discrete Data, Continuous Data by Direct Method only. Weighted Arithmetic Mean.
- Quartiles, Deciles, and Percentiles. Recognize the properties of Median.
- Real life problems involving Median, Quartiles, Deciles, and Percentiles for a Discrete and Grouped Frequency Distribution.
- Mode and recognize its properties. Identify the merits and demerits of Mode.
- The Empirical relationship between Arithmetic Mean, Median and Mode.
- Real life problems involving Mode.
- Geometric and Weighted Geometric Mean. Recognize the properties of Geometric Mean.
- Geometric Mean for a Frequency Distribution. Real life problems involving Geometric Mean.
- Harmonic Mean.
- Mathematical Proofs are not required.

Examples	2.1, 2.2, 2.5(i), 2.6(i), 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.18, 2.19, 2.22, 2.24, 2.26, 2.27, 2.29, 2.30, 2.31, 2.32
Questio	2.4, 2.5, 2.6, 2.7, 2.8, 2.10, 2.11, 2.13, 2.15, 2.16, 2.19, 2.23

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Unit No 3: Measures of Dispersion, Skewness and Kurtosis

- Dispersion and its different types.
- Range, Quartile Deviation, Mean Deviation, Standard Deviation and Variance.
- Properties of Variance and Standard Deviation (Without Mathematical Proofs).
- Coefficient of Variation for Simple Data.
- Moments (Four moments about Mean by Direct Method for individual series only).
- Skewness and Kurtosis.

Examples	3.1, 3.2, 3.3, 3.4, 3.7, 3.8, 3.9, 3.10, 3.12(i), 3.13(i), 3.14, 3.16
Questions	3.4, 3.6, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.16, 3.18, 3.26, 3.27

Unit No 4: Index Numbers

- Index Numbers. Describe the steps involved in the construction of Wholesale Price Index Numbers.
- Simple and Composite Price Index Numbers.
- Simple Price Index Numbers (a) By Fixed Base Method (b) By Chain Base Method.
- Method of Simple Aggregates. Composite Price Index Numbers using method of Simple Aggregate.
- Composite Price Index Numbers using the method of Simple average of relatives.
- Weighted Aggregative Composite Price Index Numbers by using (a) Laspeyre's Formula (b) Paasche's Formula (c) Fisher's Formula.

Examples	4.1, 4.3, 4.4, 4.6, 4.8
Questions	4.4, 4.6, 4.7, 4.8, 4.11, 4.12, 4.13, 4.15

Unit No 5: Simple Linear Regression and Correlation

- Dependent and Independent variables.
- Scatter Diagram.
- Simple Linear Regression and identify its Regression Coefficients.
- Least Squares Principle.
- Regression Lines or Equations. Recognize Properties of the Least Squares Regression Lines
- Correlation and its Properties.

Examples	5.1, 5.2, 5.3, 5.5
Questions	5.4, 5.5, 5.6, 5.7, 5.9, 5.12, 5.13, 5.14, 5.16, 5.17

Unit No 6: Time Series

- Time Series and Analysis of Time Series.
- Components of Time Series.
- Measurement of Secular Trend.

Examples	6.1, 6.2, 6.3, 6.5, 6.6
Questions	6.3, 6.5, 6.10, 6.14

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Unit No 7: Vital Statistics

- Vital Statistics and describe its uses.
- Vital Ratios and Rates.
- Types of Vital Ratios.
- Types of Mortality Rates.

Examples	7.1, 7.2, 7.4
Questions	7.3, 7.5, 7.7

Unit No 8: Interpolation

- Interpolation and Extrapolation.
- Assumptions of Interpolation.
- Entry and Argument.
- Lagrange's Formula of Interpolation.

Example	8.3
Questions	8.4, 8.6, 8.12, 8.17

Unit No 9: Linear Programming

Examples on the number	i, ii, iii, iv
Examples	9.1, 9.2, 9.3, 9.4, 9.5,9.6

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ECONOMICS -XI

Chapter No: 1. Nature and Scope of Economics

1. Human wants (Types & Characteristics)
2. Goods and Services
3. Types of Goods
4. Utility and Its Characteristics
5. Economic Problem and Its Nature (Scarcity and Choices)
6. Definitions of Economics (Adam Smith, Alfred Marshal, Lionel Robbins)

Consumer's Behavior and its Analysis

1. Introduction to Consumer Behaviour.
2. Concepts of Value, Price, Wealth, Consumption and Consumer.
3. The Law of Diminishing Marginal Utility with table and graph. (cardinal approach)
4. The Law of Equi-Marginal Utility with table and diagram.
5. Indifference Curve and its properties. (Ordinal Approach)

Basic Tools of Statistics and Mathematics in Economics

1. Variables: Continuous and Discontinuous Variables, Dependent and Independent Variables.
2. Liner equation.
3. Quadratic equation.
4. Simultaneous equations.

Demand

1. Definition of Demand
2. Law of demand.
3. Extension & Contraction of Demand, Rise & Fall in Demand.
4. Causes of Rise & Fall in Demand
5. Price Elasticity of Demand and Its Measurement (Percentage Method)
6. Concepts of Income Elasticity and Cross-Elasticity of Demand.
7. Practical Importance of Elasticity of Demand.
8. Demand Function and Functional Equation of Demand.

Supply

1. Definitions of Supply and Stock.
2. Law of Supply.
3. Extension & Contraction in Supply, Rise & Fall in Supply
4. Causes of Rise & Fall in Supply
5. Elasticity of Supply and Its Measurement.
6. Practical Importance of Elasticity of Supply.
7. Supply Function and Functional Equation of Supply.

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Equilibrium

1. Concept of Equilibrium.
2. Market Equilibrium (Equilibrium of Demand and Supply).

Theory of production

1. Definition of Production.
2. Factors of Production.
    i. Land and its Characteristics.
    ii. Labour and its Properties.
    iii. Capital and its Importance.
    iv. Organization and its Forms (Introduction).

Scale of Production:

1. Definition of Scale of Production and Its Determinants

Cost of Production

1. Definitions of Cost, Fixed Cost and Variable Cost.
2. Total Cost, Average Cost and Marginal Cost.

Revenue Analysis

1. Total Revenue, Marginal Revenue and Average Revenue.

Market

1. Meaning and Significance of Market.
2. Perfect Competition and Monopoly
3. Shapes of Total Revenue, Marginal Revenue and Average Revenue curves Under Perfect Competition and Monopoly.

Distribution- Factor Pricing

1. Definitions of Rent, Net Rent, Gross Rent
2. Definitions of Wage, Money Wage, Real Wage
3. Definitions of Interest, Net interest, Gross interest
4. Definitions of Profit, Net Profit, Gross Profit

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COMPUTER SCIENCE-XI

1. OVERVIEW OF COMPUTER SYSTEM

- 1.1.2 Computer and its basic operations
- 1.1.3 Classification of computers
- 1.1.4 Hardware and software
- 1.2 Computer Software
  - 1.2.1 Types of Software
  - 1.2.4 Software Terminologies
  - 1.2.5 Firmware
- 1.3 Computer Hardware
  - 1.3.3 Difference between Soft copy and Hard copy

2. COMPUTER MEMORY

- 2.1 Introduction
  - 2.1.1 Units of Memory
  - 2.2 Primary Memory
  - 2.2.2 Volatile and Non Volatile Memory
  - 2.2.3 Fundamental types of Main Memory
- 2.3 Secondary Storage
  - 2.3.1 Secondary Storage Devices
  - 2.3.2 Sequential Access and Direct Access Storage

3. CENTRAL PROCESSING UNIT

- 3.1 CPU (Central Processing Unit)
  - 3.1.1 Basic Components of CPU
  - 3.1.2 Types of Registers
  - 3.1.3 System BUS
- 3.2 CPU Operations
  - 3.2.3 Instructions cycle
  - 3.2.4 CISC and RISC architecture

5. NETWORK COMMUNICATION AND PROTOCOLS

- 5.1 Computer Network
  - 5.1.1 Basic Data Communication Components
  - 5.1.2 Modes of communication
  - 5.1.3 Communication media
  - 5.1.4 Communication Devices
  - 5.1.5 Network Architecture
  - 5.1.6 Networks Types
  - 5.1.7 Network Typologies
- 5.2 Data communication Standards
  - 5.2.1 Purpose of communication Standards
  - 5.3.4 IP Addressing

6. WIRELESS COMMUNICATIONS

- 6.1 Introduction
  - 6.1.1 Wireless network
  - 6.1.2 Advantages and disadvantages of Wireless networks

`

6.1.3 Important Wireless Communication Terminologies
6.1.4 Short distance and long distance Wireless communication
6.2 Short Distance Wireless Communication technology
6.2.1 Wi-Fi
6.2.2 WiMAX
6.2.3 BLUETOOTH
6.2.4 INFRARED

7 DATABASE FUNDAMENTALS

7.1 Introduction
7.1.1 Data and information
7.1.2 File Management system
7.1.3 Database (DB)
7.1.4 Database Management system
7.1.5 Advantages of DBMS over the file management system
7.1.6 Role of DB Administrator (DBA)
7.1.7 Database Models
7.1.8 Database language for relational Databases
7.2 Basic Database Terminologies
7.3.1 Planning a Data base
7.4 Data Modeling and Entity Relationship Diagram
7.4.1 Elements of Entity Relationship Diagram
7.4.2 Carnality and Modality
7.4.3 Sample E-R Diagram for library Management system
7.5 Relational Schema
7.5.1 Transformation of E-R Model into Relational Schema
7.5.2 Normalization

8. DATABASE DEVELOPMENT

8.1 Introduction
8.2 Different types of Relational Database Management system

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COMPUTER SCIENCE-XI LIST OF PRACTICALS

COMPUTER HARDWARE

Identification of Input devices, Output devices, Processing devices, Communication devices.
Identification of various parts of the Motherboard (Ports, Slots, Buses, CPU, Power supply, etc.)
Identification of various types of memories (RAM, ROM, Cache).
Identification of various types of secondary storage devices (HD, CD, DVD, Flash memory, Memory card, Blue ray (BD) disk, SSD, etc.).
Identification of network devices (Router, NIC, Cables, Switch/hub)

MICROSOFT ACCESS 2007

1. Starting Microsoft Access
2. Creating Tables, Assigning Primary key to the Table, Saving the Table
3. Adding Records to a Table, Modifying Records in a Table, Deleting Records from a Table
4. Modifying Records in a Table, Deleting Records from a Table
5. Creating Relationships between tables
6. Creating Queries
7. Viewing/Running Query, Modifying Query, Adding a Calculating Column/Field to a Query
8. Creating and Running a Data Entry Form, Making Forms More Usable with Controls
9. Creating Form with Sub-Form for Related Tables, Creating a Switchboard Form
10. Generating Reports, Creating a Report using a Query

HEALTH & PHYSICAL EDUCATION -XI

باب نمبر	عنوان / ذیلی عنوان		Page No.
01	.1 غیر متعدی امراض	(Non Communicable Diseases)	02-14
	• ہڈیوں کا بُھربُھرا پن	(Osteoporosis)	
	• دل کے امراض	(Heart Diseases)	
	• ذیابیطس	(Diabetes)	
02	.1 نظام تنفس اور ورزش		15-20
06	.1 فٹنس پلان		54-59
07	.1 کھیلوں کے قوانین اور مہارتیں		
	• 100 میٹر تیز دوڑ	(100 m Sprint Race)	61-63
	• گولہ پھینکنا	(Shot put)	78-84
	• 100x4 میٹر ریلے ریس	(4x100 m Relay Race)	70-77
	• والی بال	(Volleyball)	93-107
	• ہاکی	(Hockey)	131-139
	• ٹورنامنٹ سسٹم	(Tournament System)	140-143

نوٹ: مشقی سوالات اور معروضی سوالات کو (Reduce Syllabus) کے مطابق شامل کیا جائے

Reduced list of Practical for (Class-XI) Health & Physical Education.

1. Sprint Race 100m	100 میٹر تیز دوڑ
2. Shot put	گولہ پھینکنا
3. 4x100m Relay Race	100x4 میٹر ریلے دوڑ
4. Volleyball	والی بال
5. Hockey	ہاکی

HOME ECONOMICS-XI

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HOME MANAGEMENT:

1. Family management in Pakistan
    i. Values
    ii. Goals and standards
    iii. Discussion of some values and goals
    iv. Importance of developing goals as a mean of realizing values.
2. Resources
    i. Time management
    ii. Energy management
    iii. Work simplification
    iv. Ways of avoiding fatigue
3. Budgeting
    i. Income, types and advantages of budgeting
    ii. Budget plan for low and high income level group
4. Family housing
    i. First aid elementary
    ii. Storage of summer and winter clothes and house hold equipment
    iii. Storage of food stuff (perishable and non-perishable foods)
    iv. Storage of books, shoe and extra furniture and other house hold equipments

CHILD DEVELOPMENT:

1. Basic human needs
    i. Physical
    ii. Psychological
        a. Role of parents, teachers and society
        b. Growth and development of children
        c. Characteristics and needs of before school going child (2-5 years) and school going child (6-12 years)
        d. Understanding and dealing with children problems such as fear, anger, jealousy, bed wetting, nail biting and thumb sucking

HOME INTERIOR:

1. Comfortable home
    i. Individual needs
    ii. Furniture decoration
    iii. Interior decoration

ART AND DESIGN

1. Art
    i. Elements of art (lines, color, texture, shape)
    ii. Principles of art (rhythm, balance, harmony, emphasis, unity)

Practical:

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1. Emphasis on method of work simplification in household activities
2. Making budget for different income levels
3. 6 embroidery stitches
    i. Chain stitch
    ii. Stem stitch
    iii. Fishbone
    iv. French knot
    v. Satin stitch
    vi. Lazy daisy

GENERAL MATHEMATICS-XI

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UNIT 1	Applications To Algebraic Equations
Page 09-10	Example 2,3
Exercise 1.1	Q No1:(v, vi, vii, viii) Q No 2:(ii, iii, iv) Q No3:(ii, iv, vi) Q No5:(v, vi, vii, viii)
Page 13,14,15,16	Example 2,4,5,7,9
Exercise 1.2	Q No 2,4,6,7,8,10
Page 18	Example
Page 19	Example 3
Page 22,23	Example 2,3
Exercise 1.3	Q No 1,3,5,9,10,11
Page 28,29,30	Example 2,4
Exercise 1.4	Q No 1,3,5,6
Page 34	Example 1
Page 36	Example 2,3
Exercise 1.5	Q No 1:(v, vi, vii) Q No 4 (ii, iv, vi, viii) Q No 5, Q No 7 (ii, iii)
Page 40	Example 1,2
Page 41,42	Example 1,2
Page 44	Example 1
Page 46,47	Example 4,5,6
Exercise 1.6	Q No 1:(iii, iv, vi) Q No 2:(iii, iv) Q No 3:(iii, iv) Q No 4:(i) Q No 5
Page 52,53	Example 2,4
Exercise 1.7	Q No 1,3,5,7,9,10,14,15,17
Page 56	Example 1
Exercise 1.8	Q No 1,2,3
Page 60	Example 2
Page 62	Example 2
Page 64	Example 7,8
Exercise 1.9	QNo1:(i,ii) Q No 2,4,6,10,12,15,18,20,21,24,25
Page 66	Example 1
Page 69	Example 4 ,5,6
Exercise 1.10	Q No 1,2,3,7,8,9,10,14
Page 71,72,73	Example 1.2.3.4, 5
Exercise 1.11	Q No 1,2,3,4,8,9,10,11

UNIT 2	Loans and Annuities
Page 80	Example1
Page 82,83,84,85	Example 4, 5,7,8
Exercise 2.1	Q No 3, 4,7,9,10
Page 88	Example
Page 90	Example
Page 92	Example
Exercise 2.2	Q No 1,3,5,6
Page 94	Example
Page 97,98,99,100,101,102, 103	All Examples
Exercise 2.3	Q No ,3,5,8,9

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Page 106,107,108	All Examples
Page 112	Examples 2
Exercise 2.4	Complete

UNIT 3	**Islamic Banking**
Page 124	Example 1
Exercise 3.1	Q No 2,3
Page 126,127,128	Example 1,2,3,5
Exercise 3.2	Complete

UNIT 4	**Purchasing and Inventory**
Exercise 4.1	Q No 1,2,3,4,5,6,7,8,9,10,11
Page 135	All examples on the given page.
Exercise 4.2	Q No 1,2,3
Page 138, 139,140	All examples on the given pages
Exercise 4.3	Q No 1,2,3,4
Page 142	Example
Exercise 4.4	Q No 1,2,3

UNIT 5	**Depreciation**
Exercise 5.1	*Complete*
Page 151, 152 153	All examples on the given pages
Exercise 5.2	Q No 1,2,6,8

UNIT 6	**Taxation**
Exercise 6.1	Q No 1,2,3,4,5,6,7
Page 166,167	All Examples on the given pages
Exercise 6.2	Q No 1,3,4,5,7

UNIT 7	**Linear Programming**
Page 174	Example 2
Exercise 7.1	Q No 3,4,8,9,10,
Exercise 7.2	Q No 1,2,4,5,9
Exercise 7.3	Q No 6,7,8,9,10
Exercise 7.4	Q No 1,2,3,4,5

Unit 8	**Matrices and Determinants**
Exercise 8.2	Q No 2:(iii, iv), Q No 3:(iv, v), Q No 4:(iii), Q No 5:(iii, vi), Q No 9,12,13
Page 246	Example
Page 252	Example
Page 254	Example
Exercise 8.3	Q No 2:(ii, iii, vi), Q No 3, Q No 5:(ii), Q No 6:(i, iv, v), Q No 7, Q No 8:(i, iv, v), Q No 9:(i, ii)
Exercise 8.4	Q No 2:(i, ii, iii ,iv ,v ,vi), Q No 3, Q 4. (i,ii,iii), Q. No 5,6,7,10
Page 266	Example
Page 269,270	Example 1,2,3

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Exercise 8.5	Q No 1:(iii, iv, v, vi), Q No 2:(iii, iv, v), Q No 3,4,5

UNIT 9	**Sequences & Series**
Page 286	Examples4,5,6
Page 288,289	Examples7,9
Exercise 9.2	Q No 2:(i, iii), Q No 3,4,5,6,7,9
Page 293,294	Examples 2,3
Page 297	Examples 2
Exercise 9.3	Q No 1:(i, ii, iii, iv, v), Q No 2,6,7,8,9
Page 303,304,305	Examples 1,2,3,4
Page 307	Examples 3,4
Exercise 9.4	Q No 1:(i, ii), Q No 2:(i, ii, iii, iv), Q No 3,4,5,6,11
Page 309	Examples All
Page 310,311	Examples 1,2,3
Exercise 9.5	Q No 1,3,4,6,10,11,12
Page 314	Example 1
Page 315	Example 1
Exercise 9.6	Q No 1:(i, ii), Q No3, 5,6,7
Page 319	Example
Page 321	Example
Exercise 9.7	Q No 1,4,5,6, Q No 8:(i, ii, iii)

UNIT 10	**Number System**
Page 330	*Example 3,4*
Page 331,332,333,334,335	Example 8,9,11,12,13,14,15
Exercise 10.1	Q No 1,2,3,4,5,6,7
Exercise 10.2	Q No 1:(i, ii, iv, v), Q No 2:(ii), Q No 3:(i, ii), Q No 4:(i, ii, iii, iv)
Page 349	Example
Page 353	Example
Exercise 10.3	Q No 1,2,3,4,5
Exercise 10.4	Q No 1,2,3,4
Exercise 10.5	Q No 1,2,3,4,5,6,7,8
Page 363 , 361,362,363	All examples given on the pages
Exercise 10.6	Q No 1,2,3,4,5,6,7

ISLAMIC STUDIES-XI

باب	مضمون	ذیلی عنوانات

باب اول: قرآن مجید الف) کتابت قرآن (آداب تلاوت: ظاہری آداب، باطنی آداب)

ج) قرآن مجید کے اساسی مباحث:

توحید:

- سورۃ البقرۃ آیت نمبر 163

رسالت:

- سورۃ الجمعۃ آیت نمبر 285, اور آیت نمبر 129

آخرت:

- سورۃ البقرۃ آیت نمبر 48

انفس و آفاق:

- سورۃ الروم آیت نمبر 8
- سورۃ حٰمٓ السجدہ آیت نمبر 53

تفکر و تدبر:

- سورۃ النسآء آیت نمبر 82
- سورۃ محمد آیت نمبر 24
- معاشرتی مسائل
- سورۃ البقرۃ آیت نمبر 178 اور آیت نمبر 205
- سورۃ الحجرات آیت نمبر 11 اور آیت نمبر 12

د) عبادات: زکوٰۃ، حج

ہ) سیرت رسول اللہ ﷺ کا قران مجید کی روشنی میں مطالعہ:

- بحیثیت معاشی مصلح
- انسانی حقوق اور حسن سلوک سے متعلق حجۃ الوداع کے اہم نکات
- نبی کریم ﷺ بحیثیت سپہ سالار

و) منتخب آیات: ترجمہ و تفسیر:

- سورۃ البقرۃ آیات نمبر 255، 260, 261، 264

باب دوم: حدیث: حدیث

- حدیث اور خبر میں فرق
- راویوں کے لحاظ سے حدیث کی اقسام
- اقسام خبر بلحاظ اسناد

(منتخب احادیث کا ترجمہ و تشریح)

احادیث نمبر:24,22,21,17,15,14,12,9,8,6,1

باب سوم:	علمی پیش رفت میں مسلمانوں کی خدمات	ب) اسلام سے پہلے عربوں کے حالات ج) اسلام کا ترویج علم میں رویہ
باب چہارم:	اسلام کا نظام حکومت و ریاست	ا)عہد رسالت میں نظم ریاست کے اساسی رویے (مکی دور تا اہم شخصیات کی اہمیت) د) نظم ریاست میں اسلامی حدود کا کردار نظم سیاست میں اسلام کی علمی راہنمائی تا آخر
باب پنجم:	عصر حاضر اور اسلامی ریاستیں	ب)مسلمان امت کا سیاسی زوال، اسباب اور مستقبل کی صورت گری
باب ششم:	عربی زبان و ادب	• علوم اللسان (زبان کے علوم) • (علم نحو تا علم بدیع)

CIVICS -XI

باب	عنوان / ذیلی عنوان

1. سیاسی نظام	• کمیونٹی • ریاست • اسلامی ریاست کا تصور • ریاست اور حکومت میں فرق • حکومت کی ضرورت • آئین • پاکستان کے 1973ء کے دستور کی خصوصیات • سیاسی نظام • سیاسی نظام کی خصوصیات • فیصلہ ساز سیاسی اِدارے اور سرگرمیاں
2. حکومت کی اقسام	• بادشاہت • جمہوریت، خصوصیات و اصول • آمریت • آمریت کی خصوصیات • اسلامی حکومت اور اس کی خصوصیات
3. حقوق	• انسانی حقوق کی تاریخ • حقوق کے اقسام • اسلام میں انسانی حقوق کی تاریخ • انسانی حقوق کے ناقابل تقسیم باہمی انحصار اور تعلق خصوصیات
4. سیاسی اقتصادیات	• سیاسی اقتصادیات • بین الاقوامی تجارت، دوطرفہ تجارت اور کثیر الاطرافی تجارت • پاکستان کا ملائشیاء، چین اور سری لنکا سے آزاد تجارت کے معاہدات اور پاکستان پر سیاسی اثرات
5. تضاد اور تضاد کا حل	• تضاد اور تضاد میں شدت • تضاد کا حل۔ اتفاق رائے، مل کر کام کرنا، سودا بازی • پاکستان میں قومی سطح پر اہم تضادات کی نشاندہی اور وجوہات • تشدد کے ذریعہ اختلافات حل کرنے کے نتائج • قومی سطح پر تضاد کے حل میں حکومتی اقدامات
6. علمی مہارتیں	• عملی مہارتیں تعریف

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	• تفتیش تعریف • تفتیش یا انکوائری کے مراحل • مقامی یا ملکی کمیونٹی میں اہم مسائل کی نشاندہی • معلومات جمع کرنے کے طریقے
7. ذرائع ابلاغ اور سول سوسائٹی	• ذرائع ابلاغ کی تعریف • آزاد میڈیا کی ضرورت اور اہمیت • پاکستان میں جمہوریت کی ترقی اور مضبوطی میں میڈیا کا کردار • سول سوسائٹی • جمہوری معاشرہ میں سول سوسائٹی کے فرائض • غیر سرکاری تنظیموں کی تعریف • پاکستان میں سماجی و اقتصادی ترقی میں غیر سرکاری تنظیموں کا کردار • غیر سرکاری تنظیم مفاداتی گروہ میں فرق • شہریوں کی فلاح اور جمہوریت کے لیے سول سوسائٹی کی تنظیموں، مفاداتی گروہوں اور غیر سیاسی تنظیموں کا کردار • رضاکار کی تعریف • پاکستانی معاشرہ میں رضاکاری کی اہمیت
8. انسانی اقدار کا فروغ	• انسانی اقدار • مساوات، دادرسی اور عدم مساوات • پاکستانی معاشرے میں عدم مساوات کے اثرات • اُن گروہوں کی نشاندہی جن کو مقامی اور قومی سطح پر امتیازات کا سامنا ہے • ناانصافی (امتیاز، تفریق اور سٹیروٹائپ کے تعارف) • پاکستانی معاشرہ میں ناانصافیوں کی نشاندہی • انصاف کے لوازمات
9. فعال اور ذمہ دار شہری	• فعال اور ذمہ دار شہری کی تعریف • فعال شرکت • کمیونٹی سروسز

ISLAMIC HISTORY-XI

باب	عنوان / ذیلی عنوان

1. سرزمین عرب	1. سرزمین عرب 2. دور جہالت قبل از اسلام i. سیاسی حالت ii. مذہبی حالت iii. معاشرتی حالت iv. اقتصادی حالت	
2. سیّد الکونین حضرت محمد مصطفیٰ صلی اللہ علیہ وآلہ وسلم کی مکی زندگی	1. ولادت 2. بچپن 3. حرب الفجار 4. امین کالقب 5. حلف الفضول 6. خدیجۃ الکبریٰؓ سے نکاح 7. تعمیر کعبہ 8. بعثت (غار حرا) 9. تبلیغ کا آغاز 10. اعلانیہ تبلیغ 11. قریش کی اذیتیں 12. ہجرت حبشہ اولیٰ 13. ہجرت حبشہ ثانی 14. بنی ہاشم کا معاشرتی مقاطعہ 15. غم کا سال 16. طائف کا سفر 17. بیعت عقبہ اولیٰ 18. معراج شریف 19. بیعت عقبہ ثانی 20. ہجرت ۱۳ نبوی	
3. ہجرت کی اہمیت، مواخات (بھائی چارہ)، میثاق مدینہ، غزوات	1. ہجرت مدینہ کے اسباب 2. ہجرت کے نتائج اور اثرات 3. میثاق مدینہ 4. غزوات: غزوہ بدر، غزوہ احد، غزوہ خندق۔	
4. بیعت رضوان، صلح حدیبیہ، فتح مکہ	1. بیعت رضوان 2. صلح حدیبیہ اور اس کی اہمیت 3. غزوہ خیبر 4. غزوہ موتہ 5. فتح مکہ 6. غزوہ حنین 7. غزوہ تبوک	
5. حجۃ الوداع، وصال، سیرتِ طیبہ ﷺ	1. خطبہ حجۃ الوداع اور اس کی اہمیت 2. وصال 3. سیرت طیبہ ﷺ i. حضور ﷺ بحیثیت رسول ii. حضور ﷺ بحیثیت انسان کامل iii. حضور ﷺ بحیثیت رہبر انقلاب iv. حضور ﷺ بحیثیت سپہ سالار	

	v. آزادی نسواں
6. حضرت ابو بکر صدیقؓ	1. تعارف 2. انتخاب 3. ابتدائی مشکلات 4. فتوحات i۔ عراقی ایرانی فتوحات ii۔ رومی، شامی فتوحات 5۔ سیرت
7. حضرت عمر فاروقؓ	1. تعارف 2. انتخاب 3. ایرانی فتوحات 4. شامی فتوحات 5. سیرت
8. حضرت عمر فاروقؓ کا انتظامِ سلطنت، فوجی تنظیم۔	انتظام سلطنت: i. جمہوریت کا تصور ii. ملکی تقسیم iii. عمال کی تقرری اور فرائض iv. مردم شماری اور زمین کی پیمائش v. بیت المال vi. سن ہجری کا اجراء vii. امیر المومنین کا لقب viii. قاضی ix. رفاہ عامہ
9. حضرت عثمانؓ بن عفان	1۔ تعارف 2۔ انتخاب
10. فتنہ، الزامات، بغاوتیں، شہادت	سیرت حضرت عثمان غنیؓ
11. حضرت علیؓ بن ابی طالب	1. تعارف 2. انتخاب 3. حضرت علیؓ کی سیرت 4. حضرت امام حسن ابن علیؓ i. تعارف ii. خلافت iii. مصالحت اور دستبرداری iv. مدینہ میں قیام v. وفات
12. حضرت امیر معاویہؓ	1۔ تعارف 2۔ تخت نشینی 3۔ سیرت امیر معاویہؓ
13. یزید بن معاویہ	1۔ تعارف 2۔ واقعہ کربلا i ۔ اسباب ii۔ واقعات ا۔ حضرت امام حسینؓ کا ساتھیوں سے خطاب

	ب۔ حضرت زینبؓ کو تسلی ج۔ لشکر کی ترتیب د۔ حضرت امام حسینؓ کا خطبہ iii۔ نتائج
15. عبدالملک بن مروان	1۔ تعارف 2۔ عبدالملک کی اصلاحات
16. ولید بن عبدالملک	1۔ تعارف و تخت نشینی 2۔ فتوحات: i۔ قتیبہ بن مسلم کی فتوحات ii۔ محمد بن قاسم کی فتوحات iii۔ موسیٰ بن نصیر اور طارق بن زیاد کی فتوحات
17. سلیمان بن عبدالملک	1. حضرت عمر بن عبدالعزیزؒ i. تعارف ii. سلیمان کی وصیت iii. یزید بن مہلب کی گرفتاری iv. جراح بن عبداللہ کی معزولی v. ا vi. وفات صلا حا ت vii. سیرت اور کارنامے
19. ولید ثانی، یزید ثالث، ابراہیم اور مروان ثانی	بنو امیہ کے زوال کے اسباب
20. انتظام سلطنت	1۔ مرکزی انتظام سلطنت 2۔ صوبائی انتظام سلطنت

CLOTHING AND RELATED ART-XI (H/ ECONOMICS GROUP)

1. **Classification of textile fiber**

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i. Natural (wool, cotton, silk)
ii. Synthetic / manmade (rayon, nylon, polyester)

2. **Study of elements and principles of design**
   i. Line, color, texture
   ii. Balance, proportion, emphasis
3. **Basic weaves**
   i. Plain
   ii. Twill
   iii. Satin
4. **Methods of care and storage of clothes**
   Daily, weekly, seasonal

Practical

1. 6 basic embroidery stitches
2. Handling and care of sewing machine
3. Any two samples of necklines
4. Construction of one shirt and shalwar (newspaper draft or stitching)
5. Samples of any 3 seam-finishes.

FOOD AND NUTRITION -XI

Food:

1. Introduction, importance and functions of food.
2. Food groups: composition, selection, multivitamin value and its cookery
   i. Eggs, fruits and vegetables
   ii. Meat, fish and poultry
   iii. Milk and cereal

Nutrition:

1. Introduction, classification, importance in health and disease
2. Under and over nutrition of the following nutrients
   i. Carbohydrates
   ii. Protein
   iii. Lipids
   iv. Vitamins (water and fat soluble)
   v. Water
   vi. Minerals (calcium, phosphorus, iron, iodine)

Practical:

1. Introduction to laboratory
2. Equipments
3. Learning symbols and terms used in weighing
4. Egg cookery
5. Milk cookery
6. Vegetable cookery

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7. Salad dressing

HOME MANAGEMENT -XI

1. Home management
    i. Definition and process of home management (planning, organizing, controlling, evaluating)
    ii. Home management as a system
2. Goals, value and standards
    i. Definition, importance, types and common family goals
    ii. Definition, importance, types, characteristics and common family value
    iii. Definition, sources of standards, classification (qualitative, quantitative and flexibility standards)
3. Resources
    i. Definition and importance
    ii. Character, utility, accessibility, interchangeability, manageability
    iii. Classification (human Vs. non- human, economics Vs. non-economics, personal Vs. inter-personal
    iv. Factors affecting use of resources
4. Decision making
    i. Definition
    ii. Importance
    iii. Process of decision making
5. Income management
    i. Definition and importance
    ii. Types (money income, real income, psychic income)
    iii. Savings (definition, importance, principles, domestic and non-domestic methods)
6. Management of time and energy
    i. Concepts applied to time and energy
    ii. Guides of time management, factors affecting energy management
    iii. Work simplification (definition, importance, concept of work, worker and workplace)

CHILD DEVELOPMENT-XI

1. Introduction to the growing child
    i. Definition, importance and scope of child development.
    ii. Methods of studying child development
2. Growing and development
    i. Definition and principles of growth and development
3. Interaction of heredity and environment
    i. Heredity mechanism, definition, chromosomes, sex determination, multiple births
    ii. Environment, definition, types
4. Parental development

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i. Stages of parental development
ii. Factors affecting parental life
iii. Care of mother during pregnancy (physical, psychological, antenatal care)

5. Development tasks
   i. Infancy
   ii. Toddler hood
   iii. Early and late childhood
6. Major concerns during early and late childhood
   i. Hazard: physical and psychological
   ii. Prevention: physical and psychological

URDU ADVANCE-XI

حصّہ نثر				
نمبر شمار	درسی کتاب کا صفحہ نمبر	نثری اصناف	عنوان	مصنفین
.1	۷ تا ۱۲	داستان	حکایات بوڑھے باگھ اور مسافر	میر بہادر علی حسینی
.2	۲۶ تا ۳۳	ناول	نادار لوگ	عبداللہ حسین
.3	۴۱ تا ۴۷	ڈراما	رستم و سہراب	آغا حشر کاشمیری
.4	۶۱ تا ۶۹	افسانہ	بڑے گھر کی بیٹی	پریم چند
.5	۸۳ تا ۹۰		نیلا پتھر	احمد ندیم قاسمی
.6	۹۸ تا ۱۰۵	مضامین	اُردو لٹریچر کے عناصرِ خمسہ	مہدی آفادی
.7	۱۰۶ تا ۱۱۲		آسان اُردو	مولوی عبدالحق
.8	۱۱۸ تا ۱۲۵	طنز و مزاح	شاہین بچے	شوکت تھانوی
	۱۲۶ تا ۱۳۱		اخبار میں ضرورت ہے	احمد شاہ پطرس بخاری
.9	۱۴۰ تا ۱۴۵	تاریخ ادب اُردو	اردو زبان و ادب کی مختصر تاریخ	مؤلفین
حصہ نظم				
.1	۱۴۶ تا ۱۵۰	شعری اصناف	اصناف نظم کا تعارف	مؤلفین
.2	۱۵۱ تا ۱۵۳	حمد	حمد	ماہر القادری
.3	۱۵۴ تا ۱۵۵	نعت	نعت	محسن کاکوروی
.4	۱۵۶ تا ۱۵۷	منقبت	منقبت	ماہر القادری
.5	۱۵۸ تا ۱۶۱	نظم	رہے نام اللہ کا	نظیر اکبر آبادی
.6	۱۶۲ تا ۱۶۴	نظم	نسلِ ملوک	الطاف حسین حالی
.7	۱۸۳ تا ۱۸۶	نظم	زندگی سے ڈرتے ہو	ن.م. راشد
.8	۱۹۴ تا ۱۹۹	مرثیہ	شہادت حسینؓ	مرزا دبیر
.9	۲۰۰ تا ۲۰۱	رباعیات	رباعیات حالی	الطاف حسین حالی
	نثری اصناف		داستان، ناول، ڈراما، افسانہ، مضمون، طنز و مزاح	
	شعری اصناف		حمد، نعت، منقبت، نظم، مرثیہ، رباعی	
	علم بیان		تشبیہ (ارکان تشبیہ)، استعارہ (ارکان استعارہ)، مجاز مرسل، کنایہ	
	علم بدیع		تجنیس، تجنیسِ تام، قلبِ مستوی، صنعت اشتقاق، شبہ اشتقاق، ایہام، حُسنِ تحلیل، مراعاۃ النظیر، لف و نشر، صنعتِ تلمیح	

PASHTO-XI

د نثر برخه			
نمبرشمار	**د درسي کتاب صفحه**	**عنوان**	**مصنف**
.1	۷ نه ۱۳ پوري	هنر د شعر د نظم	خوشحال خان خټک
.2	۱۹ نه ۲۴	حکایت (ګنج پښتو د مولوي احمد)	مولوي احمد (د تنګی)
.3	۲۹ نه ۳۳	ادم خان دُرخانۍ	
		د قیصه خوانۍ ګپ شپ (د منشي احمد جان)	منشي احمد خان
.4	۳۴ نه ۴۲	حکایت (ګلدسته د عبدالقادرخان خټک)	عبدالقادرخان خټک
.5	۵۴ نه ۶۰	ګجري (قلندرمومند)	قلندرمومند
.6	۸۳ نه ۸۷	تورے خلاصے کوي (طنز و مزاح)	ډاکټرمحمد همایون هما
.7	۸۸ نه ۱۰۳	اولسي شاعري او د هغې صنفونه	-
.8	۱۰۴ نه ۱۱۰	علم بیان	-
د نظم برخه			
.1	۱۱۴ نه ۱۱۶	د کالج طالب علم	عبدالخالق خلیق
.2	۱۲۰ نه ۱۲۲	د بیدارۍ نغمه	فضل حق شیدا
.3	۱۲۳ نه ۱۲۶	شېرشاه سُوري	میا سید رسول رسا
.4	۱۳۷ نه ۱۳۹	زما محل	غني خان
.5	۱۴۳ نه ۱۴۵	د بېړي ونه	قمرراهي
.6	۱۴۶ نه ۱۵۰	پېغله	اجمل خټک
.7	۱۵۱ نه ۱۵۳	وطن ته	محمد یونس خلیل
.8	۱۶۱ نه ۱۶۴	قامه اولسه زما خپل وطنه	پروفېسر قلندر مومند
.9	۱۶۵ نه ۱۶۷	پُښتنه مور	ډاکټر امین الحق امین
.10	۱۶۸ نه ۱۷۰	امن	پېرګوهر
.11	۱۷۳ نه ۱۷۹	لټ زمیدار	داد محمد دلسوز
.12	۱۸۰ نه ۱۸۱	تصویر	امین الله داودزے
د منظومي ترجمي برخه			
.1	۱۸۸ نه ۱۹۰	اقبال	پروفېسر همایون هما
.2	۱۹۴ نه ۱۹۵	د ګل سندره	عبدالروف عارف
.3	۱۹۶ نه ۱۹۸	حمدیه نظم	پروفېسرډاکټرعبدالله جان عابد
د غزل برخه			
.1	۲۰۱ نه ۲۰۲	امیر حمزه خان شېنواري	
.2	۲۰۳ نه ۲۰۴	طاهرکلاچوي	
.3	۲۰۵ نه ۲۰۶	لعل ذاده ناظر شېنواري	
.4	۲۰۷ نه ۲۰۸	صاحبزاده فیضي	
.5	۲۰۹	پروفېسرقلندرمومند	
.6	۲۱۰ نه ۲۱۱	شمش القمراندېش	
.7	۲۱۲ نه ۲۱۳	پروفېسر رحمت الله درد	
.8	۲۲۰	پروفېسر ډاکټرمحمد اعظم اعظم	

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.9	۲۲۱ نه ۲۲۲	اکرام الله ګران	
.10	۲۲۳ نه ۲۲۴	خپبر اپرېدے	
.11	۲۲۹ نه ۲۳۰	مطيع الله قرېشي	
.12	۲۳۶ نه ۲۳۷	سعيد ګوهر	
.13	۲۴۴ نه ۲۴۵	پروفېسر راج ولي شاه خټک	
.14	۲۴۶ نه ۲۴۷	پروفېسر دروېش دُراني	
.15	۲۵۲ نه ۲۵۳	پروفېسراسير منګل	
.16	۲۵۴ نه ۲۵۵	پروفېسرډاکټر صاحب شاه صابر	

LIBRARY SCIENCE-XI

باب نمبر	عنوان / ذیلی عنوان	صفحہ نمبر
.1	کتب خانوں کا تاریخی پس منظر	01-04
.2	لائبریری سائنس کی نوعیت اور وسعت	04-24
.3	کتب خانوں کا مفہوم • لائبریری کے تصور کا ارتقاء • زمانہ قدیم میں لائبریری کے نظریات • لائبریری کی نئی اصلاحات • لائبریری کی تعریفیں • لائبریری کی خصوصات • معاشرہ میں کتب خانے کا کردار	
.4	کتب خانوں کی اقسام اور اُن کے مقاصد	37-60
.5	لائبریری مواد • لائبریری مواد کی تعریف • لائبریری مواد کی خصوصیات • لائبریری مواد کی اقسام	
.6	کتاب کا تصور، مفہوم اور افادیت	

GEOGRAPHY- XI

باب نمبر	مضامین	تفصیل
1	تعارف علم جغرافیا	وسعت، شاخیں افادیت، طبعی جُغرافیہ یا اور اس کی شاخیں ہے علم جغرافیہ کا دیگر سائنسی مضامین سے تعلق
2	زمین بطور ایک سیارہ	تعارف نظام شمسی، روئے زمین بحیثیت ایک سیارہ، زمین کی شکل اور جسامت، پانی اور اس کی تقسیم، زمین کی گردشیں اور اس کے اثرات
3	کرہ ارض کا پوست	زمین کی اندرونی ساخت، چٹانیں، چٹانوں کی اقسام اور ان کی خصوصیات
4	زمینی حدوحال زمین	زمین پر پائے جانے والے خدوخال، پہاڑوں کی تعریف، عمر اور اقسام، سطح مرتفع کی تخلیق اور اقسام، میدان ان کی اقسام اور فوائد
5	عمل عریاں کاری	عمل عریاں کاری، عمل فرسودگی اور اس کی اقسام، تخریبی عمل
6	کارکنان تعیر و تبدیل	تعارف، تحریبی عمل، دریا کی منازل اور اس کے تعمیری اور تخریبی حدوحال، گلیشیر، اس کی اقسام اور تعمیری اور تخریبی حدوحال، ہوا کا عمل تعمیر و تخریب
	پریکٹیکل (عملی) جغرافیہ	
1	نقشہ کشی اور نقشہ فہمی	
2	کرہ ارض اور نقشوں کی اطراف کا تعین- شمال کی اقسام	
3	وقت اور اس کی پیمائش	
4	پیمانہ (Scale) اور ان کی اقسام وبناوٹ	

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Grade-XII

ENGLISH-XII

U. No	Sub U. No	Title of Unit	Status	
			Content Retained/Included	Content Excluded/Removed
1	1.1	The Farewell Sermon	Retained (along with complete exercise)	Nil
	1.2	Jinnah's Vision of Pakistan	Retained (Except three comprehension questions)	Comprehension Question No. 3, 4 & 8 are excluded (Page No.26)
	1.3	The Blades of Grass (Poem)	Retained (along with complete exercise)	Nil
2	2.1	I Have a Dream	Nil	Excluded along with complete exercise (Page No.40– 55)
	2.2	Glory and Hope	Retained (along with complete exercise)	Nil
	2.3	I Dream a World (Poem)	Retained (along with complete exercise)	Nil
3	3.1	Lesson From the Battle of Uhud	Retained (Except three comprehension questions)	Comprehension Question No. 5, 8, 11, are excluded (Page No.82)
	3.2	Lingkuan Gorge	Nil	Excluded along with complete exercise (Page No.94– 108)
	3.3	If (Poem)	Nil	Excluded along with complete exercise (Page No.109– 120)
4	4.1	Determination	Retained (Except one comprehension questions)	Only comprehension Question No. 7 is excluded (Page No.127)
	4.2	The Man Who Planted tress	Nil	Excluded along with complete exercise (Page No.145 – 158)
	4.3	It Couldn't be Done (Poem)	Retained (along with complete exercise)	Nil
5	5.1	Technology and Society of Feature	Nil	Excluded along with complete exercise (Page No.169 – 193)
	5.2	Gender inequality is Detrimental to Society	Retained (Except four comprehension questions)	Comprehension Question No. 2, 4, 7 & 10 are excluded (Page No.198)
	5.3	The School Boy (Poem)	Nil	Excluded along with complete exercise (Page No.209 – 228)

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6	6.1	Archaeological Treasures of Pakistan	Retained (along with complete exercise)	Nil
	6.2	The Renaissance	Nil	Excluded along with complete exercise (Page No.252 – 262)
	6.3	Once Upon a Time (Poem)	Retained (Along with complete exercise)	Nil
7	7.1	The Merchant of Venice	Nil	Excluded along with complete exercise (Page No. 278 – 301)
	7.2	King Lear	Retained (Along with complete exercise)	Nil
	7.3	Essay Writing	Retained	Nil

Note: all the interpreting and extending questions from relevant exercises are also excluded.

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URDU (COMPULSORY)-XII

حصّہ نثر			
نمبر شمار	درسی کتاب کا صفحہ نمبر	عنوان	مصنف
۱	۱تا۹	مسلمانوں کا قدیم طرزِ تعلیم	شبلی نعمانی
۲	۱۶تا۲۵	فاقہ میں روزہ	خواجہ حسن نظامی
۳	۲۶تا۳۲	پھر وطنیّت کی طرف	مولانا صلاح الدین احمد
۴	۵۴تا۶۵	منظور	سعادت حسن منٹو
۵	۶۶تا۷۷	کتبہ	غلام عباس
۶	۹۸تا۱۰۵	محسن محلّہ	اشفاق احمد
۷	۱۱۹تا۱۳۲	ایک وصیّت کی تعمیل	فرحت اللہ بیگ
۸	۱۳۳تا۱۴۴	علّامہ اقبالؒ	چراغ حسن حسرت
۹	۱۵۴تا۱۶۷	مرید پور کا پیر	پطرس بخاری
حصّہ نظم			
۱	۱۸۷تا۱۹۳	جوابِ شکوہ	علّامہ اقبالؒ
۲	۱۹۴تا۱۹۷	بڑھے چلو	اختر شیرانی
۳	۲۱۱تا۲۱۴	نفیرِ عمل	مجید امجد
۴	۲۱۵تا۲۱۷	ہمیشہ دیر کر دیتا ہوں	منیر نیازی
حصّہ غزل			
۱	۲۲۵تا۲۲۷	کب یاد میں تیرا ساتھ نہیں، کب ہات میں تیرا ہات نہیں	فیض احمد فیض
۲	۲۳۰تا۲۳۱	سفر منزلِ شب یاد نہیں	ناصر کاظمی
۳	۲۳۲تا۲۳۴	آ کے پتھر تو میرے صحن میں دو چار گرے	شکیب جلالی
۴	۲۳۵تا۲۳۷	لب کشا لوگ ہیں، سرکار کو کیا بولنا ہے	احمد فراز

قواعد و انشا:

فعل، متعلق فعل، معاون فعل، مرکب جملے (سببی، استدراکی، وصفی، تابعی)، روز مرہ اور محاورہ

رموزِ اوقاف: رابطہ، تفصیلیہ، واوین، سوالیہ، ندائیہ وفجائیہ، قوسین، خط، وقفہ

صنائع: صنعتِ تفریق، صنعتِ تلمیح، صنعتِ تجنیس تام، صنعتِ مخرف، صنعتِ تضاد، صنعتِ مراعاۃ النظیر، سیاقۃ الاعداد

مطلع، مقطع، قافیہ، ردیف، نظم، پابند نظم، آزاد نظم، نظمِ مُعریٰ، مخمس، مسدس، غزل، سانیٹ

علمِ بیان: تشبیہ، استعارہ، مجازِ مُرسل، کنایہ

مضمون نویسی

نوٹ: حذف شدہ اسباق، منظومات اور غزلیات کے مشقی سوالات میں موجود قواعد بھی شاملِ نصاب ہوں گے۔

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PAKISTAN STUDIES-XII

باب	عنوان / ذیلی عنوان
1۔ اسلامی جمہوریہ پاکستان کا قیام	i. نظریہ کیا ہے • نظریے کی اہمیت • نظریہ پاکستان کے اجزائے ترکیبی ii. تحریک علی گڑھ iii. مسلم لیگ کے قیام کا پس منظر • شملہ وفد اکتوبر 1906ء • مسلم لیگ کا قیام 1906ء iv. تحریک خلافت v. قرارداد لاہور مارچ 1940ء • قرارداد کا متن vi. 1945-46 کے انتخابات vii. 3 جون 1947ء تقسیم ہند کا منصوبہ
2۔ اسلامی جمہوریہ پاکستان کے ابتدائی مسائل	i. ریڈکلف ایوارڈ ii. انتظامی امور کا مسئلہ iii. مہاجرین کا مسئلہ iv. اثاثوں کی تقسیم v. افواج اور فوجی ساز و سامان کی تقسیم vi. نہری پانی کا مسئلہ vii. ریاستوں کے الحاق کا مسئلہ • حیدر آباد • جونا گڑھ • جموں و کشمیر viii. مسائل کے حل کے لئے ذرائع • رہنمائی کی خصوصیات • گفت و شنید و مراعات • ایمان اتحاد و تنظیم

3۔ارض پاکستان	i. پاکستان کے محل وقوع کی اہمیت ii. پاکستان وسطی ایشیاء کا دروازہ iii. پاکستان کے طبعی خدوخال iv. پاکستان کی آب وہوا • آب وہوا کے لحاظ سے پاکستان کے خطے • آب وہوا کے انسانی زندگی پر اثر v. سیاحت
4 ۔ پاکستان کو اسلامی جمہوریہ بنانے کے اقدامات	i. قرارداد مقاصد • قرارداد مقاصد کے اہم نکات • قرارداد مقاصد کی اہمیت ii. 1973ء کے آئین میں شامل اسلامی دفعات iii. 1977ء کے بعد نفاذ اسلام کی طرف پیش رفت iv. خطبہ حجۃ الوداع اور انسانی حقوق v. اقوام متحدہ کا عالمگیر انسانی حقوق کا اعلامیہ
5۔ پاکستان کا حکومتی ڈھانچہ اور اچھا نظام حکومت	i. وفاقی حکومت کے ادارے اور ان کی کارکردگی • صدر کی حیثیت اور اختیارات • وزیر اعظم کی حیثیت اور اختیارات • پارلیمنٹ • عدلیہ ii. اچھا نظام حکومت اور اسلام iii. حضرت عمر فاروق رضی اللہ تعالی عنہ کے دور میں انتظام سلطنت iv. اختیارات کی نچلی سطح پر منتقلی اور بہتر اسلوب حکمرانی
6۔ اسلامی جمہوریہ پاکستان کی ثقافت (کلچر)	i. ثقافت کی تعریف • ثقافت کی اہمیت ii. پاکستان کا ثقافتی ورثہ اہم مقامات iii. پاکستانی ثقافت کی مشترکہ خصوصیات iv. خواتین کی پاکستان کی سیاسی اور معاشی سرگرمیوں میں شرکت
7۔پاکستانی زبانیں	i. اردو • اردو زبان کی مختصر تاریخ

	ii.	علاقائی زبانیں • پشتو
8۔ قومی یکجہتی اور خوشحالی	i. ii.	یکجہتی کا مفہوم پاکستان میں قومی یکجہتی کے مسائل اور تجاویز
9۔ اسلامی جمہوریہ پاکستان میں معاشی منصوبہ بندی اور ترقی	i. ii. iii. iv. v. vi.	معاشی منصوبہ بندی کا تصور پاکستان میں منصوبہ بندی کی ضرورت اور اہمیت زراعت اور زرعی ترقی صنعتی ترقی تجارت انفارمیشن ٹیکنالوجی
10۔ اسلامی جمہوریہ پاکستان کی خارجہ پالیسی	i. ii. iii. iv.	خارجہ پالیسی کی تعریف پاکستان کی خارجہ پالیسی کے مقاصد پاکستان کے دوسرے ممالک کے ساتھ تعلقات • چین • بھارت • ایران • امریکا • افغانستان • سعودی عرب بین الاقوامی حالات کا جائزہ۔ پاکستان کے خارجہ تعلقات کی کامیابیاں اور ناکامیاں
11۔ پاکستان کے مسائل	i. ii. iii. iv. v.	پاکستان کی آبادی تعلیم زراعت صحت ماحولیاتی آلودگی پیدا کرنے والے عوامل

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PHYSICS-XII

Unit 11: Electrostatics

- 11.1 Coulomb's law
- 11.2 Electric field and its intensity
- 11.4 Electric flux
- 11.5 Gauss's law
  - 11.5.1.2 Electric field intensity due to infinite sheet of charge
- 11.6 Electric potential
- 11.9 The electron volt
- 11.10 Capacitor
  - 11.10.1 Capacitance of a capacitor and its unit
  - 11.10.2 Capacitance of a parallel plate capacitor
- 11.11 Electric polarization
- 11.12 Energy stored in a capacitor
- 11.13 Charging and discharging of a capacitor

Unit 12: Current Electricity

- 12.3 Ohm's law
- 12.8 Effect of temperature on resistance
- 12.9 Wire wound variable resistors
  - (i). Rheostat
  - (ii). Potential divider
- 12.17 Kirchhoff's laws
- 12.18 Wheatstone bridge
- 12.19 Potentiometer

Unit 13: Electromagnetism

- 13.2 Force on a current carrying conductor
- 13.3 Magnetic flux
- 13.4 Ampere's law
- 13.7 Torque on a current carrying loop/coil
- 13.8 Galvanometer
- 13.9 Conversion of galvanometer into ammeter

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13.10 Conversion of galvanometer into voltmeter

Unit 14: Electromagnetic induction

14.2 Faraday's law of electromagnetic induction

14.3 Lenz's law

14.4 Induced e.m.f.

14.4.1 Motional e.m.f.

14.4.3 Self inductance

14.4.3.3 Mutual inductance

14.7 Transformer

14.7.1 Induction law

Unit 15: AC Circuit

15.1 Alternating voltage and current

15.2 Sinusoidal alternating voltage and current

15.3 AC Terminologies

15.4 Values of alternating voltage and current

15.5 RMS value of sinusoidal current

15.6 Phase of AC

15.7 AC through resistor

15.7.1 Power loss in a resistor

15.8 AC through pure inductor

15.8.1 Power loss in an inductor

15.10 AC through capacitor

15.10.1 Power loss in a capacitive circuit

Unit 16: Physics of solids

16.5 Energy band theory

16.6 Superconductors

16.7 Theory of magnetism

16.8 Modern view of magnetism

16.8.1 Classification of magnetic materials

(Paramagnetic, Diamagnetic, Ferromagnetic)

Unit 17: Electronics

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17.5 Rectification

17.5.1 Half wave rectifier

17.5.2 Full wave rectifier

17.6 Transistor (introduction only, Configurations and applications are excluded)

Unit 18: Dawn of modern physics

18.2 Special theory of relativity

18.3 Consequences of special theory of relativity

18.5 Photoelectric effect

18.9 The wave nature of particle (18.9.1 and 18.9.2 are excluded)

Unit 19: Atomic Spectra

19.3 Bohr's model of hydrogen atom

(Radii of quantized orbit)

(Energy of electron in quantized orbit)

(Hydrogen emission spectrum)

19.5 De Broglie wave and the hydrogen atom

(Limitations of Bohr's theory)

Unit 20: Nuclear Physics

20.1 Atomic nucleus

20.4 Nuclear masses

20.5 Mass defect and binding energy

20.6 Radioactivity (alpha, beta and gamma emission)

20.8 Half-life and rate of decay

20.18 Basic forces of nature

Note: All MCQs, short questions and problems relevant to the above mentioned topics along with sub headings are included

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List of practical for grade XII

1. Determine time constant by charging and discharging a capacitor through a resistor.
2. Determine resistance of wire by slide Wire Bridge.
3. Determine resistance of voltmeter by drawing graph between R and I/V.
4. Determine emf of a cell using potentiometer.
5. Convert a galvanometer into voltmeter of range 0 – 3 V.
6. Draw characteristics of semiconductor diode and calculate forward and reverse current resistances.
7. Study of the variation of electric current with intensity of light using a photocell.

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BIOLOGY-XII

Unit	Topic/Subtopic
14. Respiration	14.1 Properties of Respiratory surfaces 14.2 Human Respiratory system 14.2.2 Pharynx 14.2.3 larynx 14.2.4 Trachea 14.2.5 Bronchi 14.2.6 Bronchioles 14.2.7 Alveoli 14.2.8 Lungs 14.3 Lung Volumes and capacities 14.4 Control of Breathing 14.4.1 Involuntary control 14.4.2 Voluntary control 14.5 Mechanism of Transport of Gases 14.5.1 Transport of oxygen in blood 14.5.2 Transport of Carbon dioxide 14.6 Respiratory Pigments 14.6.1 Hemoglobin 14.6.2 Myoglobin 14.7 Respiratory Disorders 14.7.1 Sinusitis 14.7.3 Pneumonia 14.7.4 tuberculosis
15. Homeostasis	Homeostasis (Definition Only) 15.2 Osmoregulation 15.2.1 Water and solutes Relation to the Cells 15.2.2 Osmoregulators 15.2.3 Osmoconformers 15.3 Osmoregulation in animals of different environment 15.3.1 Fresh Water animals 15.3.2 Marine animals 15.3.3 Terrestrial animals 15.4 Excretion 15.4.1 Ammonia 15.4.2 Urea 15.4.3 Uric Acid 15.5 Human Excretory System 15.5.1 Kidneys 15.5.2 Ureters 15.5.3 Urinary Bladder 15.5.4 Urethra 15.5.5 Nephron 15.5.6 Renal Corpuscle 15.5.7 Renal Tubule 15.5.8 Types of Nephron 15.5.9 Excretory Function of Nephron 15.5.10 Kidneys as Osmoregulatory Organ

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	15.6 Urinary Tract Infections(UTIs) 15.6.1 Causes 15.7 Urinary Stones 15.7.1 Symptoms 15.7.2 Chemical nature of stones 15.7.3 Causes 15.7.4 Treatment of Urinary stones 15.8 Renal Failure/Kidney Failure 15.8.1 Acute Kidney Failure 15.8.2 Causes 15.8.3 Chronic Renal Failure 15.8.4 Causes 15.8.5 Renal Failure Treatment
16. Support & Movements	16.1 Human Skeleton 16.1.1 Cartilage 1 6.1.2 Bone 6.1.3 Main divisions of human skeleton 16.1.4 Joints 16.3 Muscles 16.3.1 Types of muscles 16.3.2 Structure of Skeletal muscles
17. Nervous coordination	17.2 Neurons 7.2.1 Sensory Neuron 17.2.2 Associative/intermediate neuron 17.2.4 Reflex Arc 7.3 Nerve Impulse 17.3.1 Resting membrane potential 17.3.2 Distribution and active movement of Na^+ and K^+ ions 17.3.3 Negative organic ions 17.3.4 Leakage of K^+ ions 17.3.5 Development of active membrane potential 17.3.6 Threshold stimulus 17.3.7 Influx of Na^+ 17.3.8 Refractory period 17.3.9 types of Nerve Impulse 17.4 Synapse 17.4.1 Electrical synapses 17.4.2 Chemical synapses 17.4.3 Transmission of nerve impulse across synapse 17.4.4 Neurotransmitters 17.5 Organization of Human Nervous system 17.5.1 Divisions of human nervous system 17.5.2 Central Nervous System 17.5.3 Protection of brain and spinal cord 17.5.4 Structure and function of brain 17.5.5 Peripheral Nervous System 17.5.6 somatic Nervous System 17.5.7 Autonomic Nervous System(ANS)

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	17.6 Structure and Function of Special Receptors 17.6.1 Taste 17.6.2 Smell 17.6.3 Touch 17.6.4 Pain
18. Chemical coordination	18.1 Hormones: The Chemical Messengers 18.1.1 chemical nature of hormones 18.2.Endocrinic System of man 18.2.2 Pituitary gland 18.2.3 Thyroid gland 18.2.4 Parathyroid 18.2.5 Pancreas 18.2.6 Adrenal glands 18.2.7 The Gonads
19. Behavior	Introduction **(Behavior definition only)** 19.4 Social behaviors 19.4.1 Hostile and helpful intraspecific interaction 19.4.2 Aggression 19.4.3 Territorial behavior 19.4.4 dominance hierarchies 19.4.5 Altruistic behavior
20. Reproduction	20.1 Male Reproductive System 20.1.1 Testes 20.1.2 Vasa efferentia 20.1.4 Vas deferens 20.1.5 Urethra 20..1.6 Accessory glands 20.1.7 Spermatogenesis 20.1.8 Sperm 20.1.9 Hormonal control 20.2 Female Reproductive System 20.2.1 Ovaries 20.2.2 Fallopian tubes 20.2.3 Uterus 20.2.4 Cervix 20.2.5 Vagina 20.2.6 Oogenesis 20.3 Menstrual Cycle 20.3.2 Proliferative phase 20.3.3 Secretory phase 20.4 Disorders of Reproductive system 20.4.1 Female infertility 20.4.2 Male infertility 20.4.3 In vitro fertilization 20.4.4 Miscarriage
21. Development and aging	2.1 Embryonic Development 21.1.1 Early cleavage and Blastocyst formation 21.1.2 Implantation of early embryo 21.1.3 Gastrulation 21.1.4 Neurulation 21.3 Human Embryonic Development

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	21.3.1 Fetal development: The first trimester 21.3.2 Fetal Development: The second trimester 21.3.3 Fetal development: The third trimester 21.3.4 Twins and Quadruplets 23.3.5 Placentation 21.4 Lactation 21.4.1 Breast feeding VS Bottle Feeding 21.5 Disorders during Embryonic Development 21.5.1 Rubella 21.5.2 Abnormal neural tube 21.5.3 Thyroid gland 21.5.4 Limb abnormalities 21.5.5 Genetic abnormalities related to spontaneous abortions
22. Inheritance	Introduction 22.1 Mendel's Laws of Inheritance 22.1.1 Gregor John Mendel & his work 221.2 Mendel's Experiment 22.1.3 Inheritance of single trait 22.1.4 Mendel's principles of inheritance 22.1.5 Inheritance of two traits 22.3 ABO Blood Group System 22.3.1 Multiple Alleles 22.3.2 ABO blood groups 22.3.3 Genetic basis of ABO blood group 22.5 Gene Interaction 22.5.1 Epistasis 22.5.2 Bomby phenotype 22.5.3 Polygenic Inheritance 22.5.4 Wheat grain color 22.5.5 Human skin color 22.7 Sex determination 22.7.1 Patterns of Sex Determination 22.7.2 Comparison of chromosomal determination of sex between Dros 22.8.1 Sex Linkage in Drosophila 22.8.3 Types of sex Linked traits 22.8.4 Linkage in humans 22.8.5 Genetics of Hemophilia 22.8.6 Genetics of color-blindness 22.8.7 Sex Related Traits
23. Chromosomes and DNA	23.4 DNA as Heredity Material 23.4.1 Griffith's Experiment 23.4.2 Avery's Experiment 23.4.3 Hershey & Chase Experiment 23.5 DNA Replication 23.5.1 Semi-conservative Model 23.5.2 Conservative Model 3.5.3 Dispersive Model 23.5.4 Michelson-Stahl Experiment

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	23.5.5 Process of DNA replication 23.6 Gene Expression 23.6.1 Central Dogma of gene expression 23.6.2 Transcription 23.6.3 Post Transcriptional Modification of mRNA 23.6.4 genetic Code 23.6.5 Translation 23.7 Regulation of Gene Expression 23.7.1 Importance of gene regulation 23.7.2 Methods of gene regulation 23.7.3 Lac Operon 23.8 Mutation 23.8.1 Origin of Mutation 23.8.2 Types of mutation 23.8.3 Types of Mutagens
24. Evolution	24.1 The Evolution of the Concepts of Evolution 24.2 Evolution of Eukaryotes from prokaryotes 24.2.1 Endosymbiosis 24.2.2 Membrane Infoldling 24.3 Lamarckism 24.4 Darwinism 24.4.1 Darwin's voyage of HMS Beagle and his observations 24.3.2 Darwin's theory evolution 24.5 Neo-darwinism 24.5.1 Evidence of Evolution
25. Man and his Environment	25.1 Biogeochemical cycles 25.1.1 Water Cycle 5.1.2 The Nitrogen Cycle 25.3 Ecological Succession 25.3.1 Types of Succession 25.3.2 Xerosere
26. Biotechnology	26.1 Cloning of gene 26.1.1 Recombinant DNA Technology 26.1.2 Selection and Isolation of Desired Gene 26.1.3 Molecular Scissors 26.1.4 Molecular Carrier or Vectors 26.1.5 Example of Vectors 26.1.6 Molecular Glue 26.1.7 Expression system 26.2 Procedure of recombination DNA Technology 26.2.1 Formation of Recombinant DNA 26.2.2 Transformation of expression system 26.2.3 Identification of transformed clone 26.3 Polymerase Chain Reaction 26.3.1 Components of PCR technique 26.3.2 Mechanism of PCR reaction 26.3.3 Application of PCR 26.4 Genomic Library 26.4.1 Construction of Genomic Library 26.4.2 Locating of interest from DNA libraries

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	26.5 DNA Sequencing 26.5.1 Sanger's method 26.5.2 Gel electrophoresis 26.5.3 Automated DNA Sequencing 26.5.4 Maxam-Gilgert Method 26.6 DNA Analysis 26.6.1 Procedure 26.6.2 Applications of DNA analysis 26.7 Genome Maps 26.7.1 Genome maps 26.7.2 Genetic markers 26.7.3 commonly Used DNA Markers 26.7.4 Genome Analysis 26.7.5 Human Genome Project 26.7.6 Major Goals of HGP 26.7.7 Benefits of HGP 26.8 Tissue Culture 26.8.1 Procedure of tissue Culture 26.8.2 Types of tissue culture 26.8.3 animal Cell Culture 26.9. Transgenic Organisms 26.9.1 transgenic Bacteria 26.9.2 Transgenic Plants 26.9.3 Transgenic Animals
27. Biology and human Welfare	Introduction 27.7 role of Microbes in Human Welfare 27.7.1 Role of Microbes in Human Welfare 27.7.2 Role of Microbes in Alcohol industry 27.7.3 Role of Microbes in Pharmaceutical industry 27.7.4 Role of Microbes in Waste Treatment 27.7.5 Role of Microbes in Energy

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LIST OF BIOLOGY PRACTICALS HSSC (2nd YEAR)

Chapter 14: Respiration

- Comparison and interpretation of the X-ray films of lungs of a smoker with that of a healthy man

Chapter 15: Homeostasis

- No Practical

Chapter 16: Support & Movements

- Identification of the bones of the pelvic girdles, arms and legs by using the model of human skeleton
- Comparison of the structure of skeletal, smooth and cardiac muscles with the help of prepared slides

Chapter 17: Nervous Coordination

- Observation of the MRI scan of the brain of a sleeping human and compare it with that of a fully awake individual

Chapter 18: Chemical Coordination

- No practical Activity

Chapter 19: Behaviour

- Observation of a spider's web and recording the instincts by providing it various stimuli

Chapter 20: Reproduction

- Examination of the prepared slides of histology of ovaries and drawing its structure

Chapter 21: Development and Aging

- Identification of the group of vertebrates, through diagrams of different blastula

Chapter 22: Inheritance

- Evaluation of the inheritance of genes and their mixing during fertilization as based on mathematical probabilities

Chapter 23: Chromosomes and DNA

- No practical Activity

Chapter 24: Evolution

- Interpretation of different homologous and analogous structures through observation in plants

Chapter 25: Man and his Environment

- No practical Activity

Chapter 26: Biotechnology

- No practical Activity

Chapter 27: Biology and Human Welfare

- No practical Activity

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CHEMISTRY-XII

Chapter-13 s and p Block Elements

Introduction

- 13.1 3rd Period (Na to Ar):
  - 13.1.1 Physical of properties and Atomic Properties of Elements of 3rd Period
    - 13.1.1.1 Electronic Configuration
    - 13.1.1.2 Trends in Atomic Radius
    - 13.1.1.3 Trends in first Ionization Energy
    - 13.1.1.4 Trends in Electronegativity
    - 13.1.1.5 Trends in electrical Conductivity
    - 13.1.1.6 Trends in Melting and Boiling Points
  - 13.1.2 Reaction of period 3rd Elements with Water, Oxygen and Chlorine
- 13.2 Group I Elements
  - 13.2.1 Trends in Physical Properties
    - 13.2.1.1 Trends in Atomic Radius
    - 13.2.1.2 Trends in first Ionization Energy
    - 13.2.1.3 Trends in Electronegativity
    - 13.2.1.4 Trends in Melting and Boiling Points
    - 13.2.1.5 Trend in Density
  - 13.2.2 Trends in Chemical Properties
    - 13.2.2.1 Reaction with water
    - 13.2.2.2 Reaction with oxygen
    - 13.2.2.3 Reaction with Chlorine
    - 13.2.2.5 Flame test
- 13.3 Group II Elements
  - 13.3.1 Trends in Physical Properties
    - 13.3.1.1 Trends in Atomic Radius
    - 13.3.1.2 Trends in first Ionization Energy
    - 13.3.1.3 Trends in Electronegativity
    - 13.3.1.4 Trends in Melting and Boiling Points
  - 13.3.2 Trends in Chemical Properties
    - 13.3.2.1 Trends in Reactivity with water
    - 13.3.2.2 Reaction with Oxygen and Nitrogen
  - 13.3.3 How beryllium differs from other members of its group?
  - 13.3.4 Why is Beryllium Chloride Covalent and not Ionic?
  - 13.3.5 Amphoteric Beryllium Hydroxides
- 13.4 Group IV Elements
  - 13.4.1 Physical Properties
    - 13.4.1.1 Melting and Boiling Point
    - 13.4.1.2 Trend from non-metal to metal
    - 13.4.1.3 Oxidation state
  - 13.4.1.2 Inert Pair Effect in formation of ionic bond
  - 13.4.1.3 Inert Pair Effect in formation of covalent bond

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13.4.2 Chemical Properties
13.4.2.1 Chlorides of Carbon, Silicon and Lead
13.4.2.1.1 Structure and stability
13.4.2.1.2 Reaction with water
13.4.2.2 Oxides
13.4.2.2.1 Structure of Carbon dioxide and Silicon dioxide

Chapter-14 d and f block Elements

Introduction
14.1 General features
14.1.1 General features of transition metals
14.1.2 Electronic structure
14.1.3 Binding Energy
14.1.4 Variable oxidation state
14.1.5 Catalytic Properties
14.1.6 Magnetic Behavior
14.1.7 Alloy Formation
14.2 Coordination compounds
14.2.1 Complex ions
14.2.2 Nomenclature of coordination compounds
14.2.3 Shapes of Complex ions
14.2.4 Color of complexes
14.3 Chemistry of some important Transition Elements
14.3.2 Chromium
14.3.3 Manganese
14.3.5 Copper

Chapter-15 Organic Compounds

Introduction
15.1 Sources
15.1.1 Fossil Remains
15.1.2 Plants and Natural Products
15.2 Coal as a source of Organic compounds
15.3 Characteristics of Organic Compounds
15.4 Uses of Organic Compounds
15.6 Functional Group and Homologous series

Chapter-16 Hydrocarbons

Introduction
16.1 Types of Hydrocarbons
16.2 Alkanes and Cycloalkanes
16.2.1 Nomenclature
16.2.2 Physical properties
16.2.3 Structure
16.2.5 Reaction of alkanes

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16.3 Alkenes
16.3.1 Nomenclature
16.3.3 Structure of alkenes
16.3.4 Preparation of alkenes
16.3.6 Reaction alkenes
16.4 Isomerism
16.5 Alkynes
16.5.1 Nomenclature
16.5.3 Structure
16.5.4 Physical Properties
16.5.5 Preparation of alkynes by Elimination Reactions
16.5.7 Acidity of Terminal Alkynes
16.5.8 Addition reaction of Alkynes
16.6 Benzenes and Substituted Benzenes
16.6.1 Nomenclature
16.6.2 Physical Properties
16.6.3 Structure
16.6.4 Resonance, Resonance Energy and stability
16.6.5 Reactivity and reaction
16.6.5.1 Addition reaction
16.6.5.2 Electrophilic Aromatic substitution
16.6.5.3 Substituent Effects
16.5.5.4 Making Poly Substituted Benzene

Chapter-17 Alkyl Halides

Introduction
17.1 Alkyl Halides
17.1.1 Nomenclature of Alkyl Halides
17.1.2 Physical Properties of Alkyl Halides
17.1.3 Structure of Alkyl Halides
17.1.4 Preparation of Alkyl Halides
17.1.4.1 Reaction of Halogen acids with alcohols
17.1.4.2 By the action of Phosphorous Halides on Alcohols
17.1.5 Reactivity of Alkyl Halides
17.1.6 Nucleophilic Substitution reaction
17.1.6.2 Important Concepts
17.1.6.3 SN1 Mechanism
17.1.6.4 SN2 Mechanism
17.1.7 Elimination reaction
E^1-Mechanism
E^2-Mechanism
17.2 Organometallic compounds (Grignard Reagents)
17.2.1 Preparation of Grignard's reagent
17.2.2 Reactivity of Grignard's reagent

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17.2.3 Reactions of Grignard's reagent

Chapter-18 Alcohol, Phenols and Ethers

Introduction

18.1 Alcohols

18.1.1 Nomenclature

18.1.2 Physical Properties

18.1.3 Structure of alcohols

18.1.4 Acidity of alcohols

18.1.5 Preparation of alcohols

18.1.5.4 Reduction of Aldehydes and ketones

18.1.5.6 Reduction of carboxylic acid and Ester

18.1.6 Reactivity

18.1.7 Reactions of alcohols

18.1.7.1 Reaction with Halogen Acids (HX)

18.1.7.4 Reaction with carboxylic acids (Esterification)

18.1.7.5 Oxidation

18.1.7.6 Cleavage of 1,2-diols (Glycols)

18.2 Phenols

18.2.1 Nomenclature

18.2.2 Structure of Phenols

18.2.3 Physical Properties

18.2.4 Acidity of Phenols

18.2.5 Preparation of phenols

18.2.6 Reactivity of phenols

18.3 Ethers

18.3.1 Nomenclature

18.3.2 Preparation

18.3.3 Physical Properties

18.3.4 Chemical reactivity

Chapter-19 Carbonyl compounds I Aldehydes and Ketones

Introduction

19.1 Nomenclature

19.2 Physical properties

19.3 Structure

19.5 Reactivity of Carbonyl Compounds

19.6 Reactions of Aldehydes and Ketones

19.6.1 Nucleophilic Addition Reactions

19.6.2 Relative Reactivity

19.6.3 Reduction of Aldehydes and Ketones

a) Clemenson Reduction

b) Wolf-Kishner Reduction

3. (ii) Reduction using HCN

4. Reduction using Nitrogen Nucleophile

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19.6.4 Oxidation Reactions of Carbonyl Compounds

Chapter 20 Carbonyl Compounds II Carboxylic acids and Functional derivatives

Introduction

20.1 Nomenclature

20.2 Physical Properties

20.3 Structure

20.4 Acidity

20.5 Preparation of Carboxylic acids

20.5.2 Hydrolysis of Nitriles

20.5.5 Oxidation of Alkyl Benzene

20.6 Reactivity

20.7 Reaction of Carboxylic Acids

20.7.1 Conversion to Carboxylic Acid Derivatives

20.7.1.1 Acid Halides and Acyl Halides

20.7.1.2 Acid Anhydride

20.7.1.3 Esters

20.7.5 Reactions of Carboxylic Acid Derivatives

20.7.5.2 Reaction of Acid Anhydride

20.7.5.3 Reactions of Esters

i) Hydrolysis

ii) Reduction of Esters

Chapter-21 Bio Chemistry

Introduction

21.1 Carbohydrates

21.1.1 Classification of Carbohydrates

21.1.2 Functions of Carbohydrates

21.2 Proteins

21.2.1 Functions of Proteins

21.2.2 Classification of Proteins

21.2.3 Structure of Proteins

21.2.4 Properties of Proteins

21.2.5 Importance of Proteins

21.3 Enzymes

21.3.1 Role of enzymes as Biocatalyst

21.3.2 Factors affecting Enzymes activity

i. Effect of Temperature

ii Effect of pH

21.3.3 Industrial application of Enzymes

21.4 Lipids

21.4.1 Classification of Lipids

21.4.2 Structure

21.4.3 Physical Properties

21.4.4 Chemical Properties

`

Chapter-22 Industrial Chemistry

Introduction

- 22.4 Pesticides
- 22.5 Petrochemicals
- 22.6 Synthetic Polymers (PVC and Nylon)

Chapter-23 Environmental Chemistry

Introduction

- 23.1 Chemistry of Troposphere
  - 23.1.4 Industrial Smog
  - 23.1.5 Photochemical Smog
  - 23.1.7 Acid Rain
- 23.2 Chemistry of Stratosphere
- 23.3 Water Pollution and Water treatment
  - 23.3.1 Types of water pollutants
    - 23.3.1.1 Suspended Solids and Sediments
    - 23.3.1.2 Dissolved Solids
  - 23.3.2 Waste water treatment

Chapter-24 Analytical chemistry

Introduction

- 24.2 Modern Methods of analysis
  - 24.2.1 Spectroscopy
  - 24.2.2 Spectroscopic Methods
    - 24.2.2.1 Infrared (IR) Spectroscopy
    - 24.2.2.2 Ultraviolet and visible spectroscopy

List of experiments for reduced syllabus Chemistry XII.

1. Dry Test for Basic and Acidic Radicals (only two salts).
2. Basic Radical Group I (only two Radicals), Group II-A (only two radicals), Group III (only two radicals), Group VI (only two radicals).
3. Acid Radical Dilute Acidic Group (only two radicals), Concentrated Acidic Group (only two radicals)
4. Preparation of Iodo form (CHI_3)
5. Estimation of Barium as Barium Chromate ($BaCrO_4$)

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MATHEMATICS-XII

Chapter 1	**Functions and Limit**
Page-4	Example-1.1.4
Page-9	Example-1.3.2
Page-10	Example-1.3.3
Exercise 1.1	Q1,2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14
Page-18	Example-1.4.3
Page-19	Example-1.4.4
Exercise 1.2	Q.2,3,4,5,6
Page-33	Example-1.6.8
Page-38	Example-1.6.10
Page-39	Example-1.6.11
Page-39	Example-1.6.14
Page-40	Example-1.6.15
Page-40	Example-1.6.16
Page-41	Article 1.7(Important Limits formulae except formula no. 6)
Page-47	Example-1.8.3
Page-50	Example-1.8.5 (b), (c)
Page-52	Example-1.8.6 (c), (d)
Exercise 1.4	Q.1,2, 3, 5

Chapter-2	**Differentiation**
Page-60	Example-2.1.1
Exercise 2.1	Q.1 (a, c, d), Q.2 (b, c, d), Q.3
Page-63	Example-2.1.2
Page-65	Example-2.1.3
Page-66	Article 2.1/(vi), proof of power formula by first Principal rule.
Exercise 2.2	Q.1 (a, b, c, e, g, h, i)
Page-71	Proof of product rule
Page-72	Proof of quotient rule
Page-73	Example-2.2.3
Exercise 2.3	Q.1. (a, b, d, f), Q.2 (a, b, c, f, g, h), Q.3 (a, b), Q.5
Page-79	Example-2.4.2
Page-83	Example-2.4.5
Exercise 2.4	Q.1(a, d, e, g), Q.2, Q.3, Q.4
Page-86	Example-2.4.8
Exercise 2.5	Q.1, 2, 3, 5, 6
Page-93	Example-2.5.1
Page-93	Example-2.5.2 (b)
Page-94	2.5.2 Differentiation of Inverse Trigonometric Function
Page-97	Example- 2.5.3
Exercise 2.6	Q. 1, 2, 3
Page- 100	Article: 2.6/(i) Derivative of e^x and a^x by first Principal rule.
Page-103	Example-2.6.1
Page-104	Example-2.6.2

`

Page-109	Example-2.7.1
Page-109	2.7/(ii) Differentiation of Inverse Hyperbolic Function
Page-113	Example-2.7.2
Exercise 2.7	Q.1 (a, b, d, f), Q.2 (b, c, e, f), Q.3 (a, b, c, d, f), Q.4 (b, c), Q.5 (a, b, c, f), Q.6 (a, b, c, e)

Chapter-3	**Higher Order Derivatives and Applications**
Page-118	Example-3.1.1
Page-119	Example-3.1.2
Page-122	Example-3.1.3
Page-127	Example-3.1.7
Exercise 3.1	Q. 1 (a, b, d, e), Q.2 (a), Q.3 (a, b), Q.4 (a, d, e)
Page-133	Example-3.2.2
Page-134	Example-3.2.5
Page-135	Example-3.2.7
Page-136	Example-3.2.9
Page-138	Example-3.3.1, 3.3.2
Page-140	Example-3.3.3
Exercise 3.2	Q.1 (a, b, c), Q.2 (a, b, f, g), Q.3, Q.4 (b, c), Q.5 (a, c), Q.6, Q.7(a)
Page-148	Example-3.4.4
Page-150	Example-3.4.6
Exercise 3.3	Q.2 (a), Q.3 (a, c), Q.4 (a, b), Q.5 ,8

Chapter-4	**Differentiation of Vector Functions**
Page-164	Example- 4.1.3
Exercise 4.1	Q.1 (a, c, e, g), Q.3 (a, c, d), Q.4 (a, c, e, g), Q.5 (a, d, f)
Page-173	Example-4.4.1
Page-174	Example-4.4.2
Exercise 4.2	Q.1, Q.2 (a, c) Q.3(a, c), Q.4 (a, c), Q5 (a, b, c), Q. 6 (a), Q. 8

Chapter-5	**Integration**
Page-182	Example-5.1.2
Page-185	Example-5.2.1
Page-189	Example-5.3.1
Exercise 5.1	Q. 1, 2, 3, 4, 5
Page-197	Example-5.3.8
Page-199	Example-5.3.13, 5.3.14
Page-200	Example-5.3.15
Exercise 5.2	Q.1, Q.2 (b, e, f, g, h), Q.3 (a, b, d, e)
Page-204	Example-5.4.2 (a)
Page-206	Example-5.4.4
Exercise 5.3	Q. 1(a, b, d), Q.2 (a, b, f), Q.3 (a, b, c, f, i, j), Q.4 (a, c), Q.6
Page-223	Example-5.6.4
Page-226	Example-5.6.6

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Page-229	Example-5.6.7
Exercise 5.5	Q. 1 (a, b, c, d, h), Q.2 (b, c), Q.3 (b, c, e, f), Q.5

Chapter-6	**Plane Analytic Geometry-Straight Line**
Page-240	Example-6.1.2
Page-244	Example-6.1.4
Exercise 6.1	Q. 2, 3, 5, 6,7, 9, 10 (a, b), 11 (a, b), 12 (a, c)
Page-249	Article 6.2 (iii)
Page-257	Example-6.4.6
Exercise 6.2	Q. 3, Q. 4 (b, e), Q.5 (a, c), Q. 6(a, d), Q 7. (b, d), Q.8 (a, b), Q.9 (c, d)
Page-266	Example-6.5.3
Page-270	Example-6.6.1
Page-272	Example-6.6.3
Exercise 6.3	Q. 2, Q.3 (a, c, d), Q. 5, Q. 6 (b, c), Q.7 (a, d), Q.8
Page-278	Example-6.7.1
Page-284	Example-6.8.1
Page-288	Example-6.9.2
Page-289	Example-6.9.4
Exercise 6.4	Q. 1 (a, b), Q. 2 (a, b), Q.4, Q. 5, Q.8 (a, b), Q.9 (a, b), Q.10 (a)

Chapter-7	**Conics-I**
Page-298	Example-7.2.2
Page-299	Example-7.2.3
Page-302	Example-7.2.5
Exercise 7.1	Q. 1, Q.2 (d, e, f, g), Q.3 (a, b), Q. 5(a, b), Q.6 (a, d), Q.7 (a, b), Q.8, Q. 9 (b, c)
Page-309	Example-7.3.2
Page-312	Example-7.3.4
Page-318	Example-7.3.7
Page-319	Example-7.3.8
Page-322	Example-7.3.10
Exercise 7.2	Q. 1, Q.3, Q. 4, 5, 7, 9, 10,12, 13

Chapter-8	**Conics-II**
Page-347	Example-8.1.3
Page-349	Example-8.1.4
Page-351	Example-8.1.5
Page-356	Example-8.1.8
Exercise 8.1	Q.1, 3, 5, 6 (a, c), Q.7, Q.8 (b, d), Q.9 (a), Q.10
Page-365	Example-8.2.1
Page-366	Example-8.2.2
Page-368	Example-8.2.4
Page-375	Example-8.2.8
Exercise 8.2	Q. 1, 3 (a, b, c), 4, 5, 6.

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Page-384	Example-8.3.2
Page-388	Example-8.3.6
Page-391	Example-8.3.7
Page-394	Example-8.3.9
Exercise 8.3	Q. 1, Q. 3 (a, b, c, g, h), 5, 6, 8 (a, b), 9
Page-405	Example-8.4.4
Exercise -8.4	Q. 1 (a, b, c), Q.2 (a, b), Q. 4

Chapter-9	**Differential Equations**
Exercise 9.1	Q. 2, 4, 5(a, b, c, d)
Page-420	Example-9.3.2
Page-424	Example-9.3.4
Page-428	Example-9.4.1
Exercise -9.2	Q. 1, Q.2 (a, b, c), Q.3 (a, b, c), Q.5, 10, 11, Q.13 (a, b, c, d)

Chapter-10	**Partial Differentiation**
Page-436	Example-10.1.5
Page-437	Example-10.1.6
Page-439	Example-10.1.8
Exercise 10.1	Q. 1, 2, 3
Page-445	Example-10.2.5, 10.2.6
Exercise 10.2	Q. 1, 2 (a, b), 3, 4, 5

Chapter-11	**Introduction to Numerical methods**
Page-451	Example-11.1.1
Page-454	Example-11.1.2
Page-458	Example-11.1.5
Exercise 11.1	Q.1, 2, 3
Page-463	Example11.2.1
Page-467	Example-11.2.2
Exercise 11.2	Q. 1 (a, b, d), Q. 2 (a, b, d), Q.4

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STATISTICS- XII

Unit No 1: Probability

1.2.1. Factorial, Rule of Permutation, Combination, Random Experiment.
1.2.2. Sample space. Definition of an outcome and events.
1.2.4. Definition of Probability.
1.3.1. Addition law of probability for mutually exclusive events.
1.3.2. Addition law of probability for non-mutually exclusive events.
1.3.3. Multiplication law for independent events.
Mathematical proofs 1.3.1, 1.3.2 and 1.3.3 are not required.

Examples	1.1, 1.2, 1.3,1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 1.13, 1.15, 1.17
Questions	1.4, 1.5, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18, 1.19, 1.20, 1.21, 1.22

Unit No 2: Random Variables and Probability Distributions

2.1. Random Variables and its types. Probability distribution of a discrete random variable.
2.2. Probability distribution of a function of a discrete random variable.
2.2.4. Mathematical Expectation of a random variable.
2.2.7. Properties of Mathematical Expectation (Mathematical proofs are not required)
2.2.9. Properties of Variance and Standard Deviation of a random variable (Mathematical proofs are not required).
2.3. .Probability distribution of a continuous random variable.

Examples	2.1, 2.2, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.12, 2.13, 2.14, 2.15, 2.16
Questions	2.4, 2.5, 2.6, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 2.15, 2.16, 2.17, 2.18, 2.20

Unit No 3: Special Discrete Probability Distributions

3.2.1. Bernoulli Probability Distribution.
3.2.3. Properties of Bernoulli Distribution.
3.3 Binomial Experiment.
3.3.1. Binomial probability distribution.
3.3.2. Binomial probability mass function.
3.3.3. Properties of Binomial distribution (without mathematical proofs).
3.3.4. Binomial frequency distribution.

Examples	3.5, 3.7, 3.11, 3.13, 3.15, 3.17
Questions	3.7, 3.8, 3.10, 3.11, 3.13, 3.16, 3.17, 3.20, 3.21, 3.22, 3.25, 3.26

Unit No 4: Special Continuous Probability Distributions

4.2.1. Normal Distribution and its Properties. Use of Area Table.

Examples	4.3, 4.9, 4.11, 4.12
Questions	4.5, 4.6, 4.7, 4.8, 4.10, 4.11, 4.13, 4.14, 4.17

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Unit No 5: Sampling and Sampling Distributions

5.1. . Sampling Survey.

5.1.1. Population, Finite Population, Infinite Population, Sampling Unit, Sample, Sampling Frame and Sample Design.

5.1.2. Differentiate between Census and Sampling.

5.1.4. Advantages and Disadvantages of Sampling.

5.1.5. Parameter, Statistic and Estimator.

5.1.6. Sampling and Non-Sampling Error.

5.1.8. Sampling with and without replacement.

5.1.9. Probability and Non-Probability Sampling Methods.

5.1.10. Simple Random Sampling and its method for selection.

5.2.2. Sampling Distribution of Sample Mean $\bar{x}$.

5.4.1. Sample Proportion $\widehat{p}$.

Examples	5.1, 5.4, 5.5, 5.6, 5.8
Questions	5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11, 5.13, 5.18, 5.19, 5.20, 5.21, 5.23, 5.28, 5.29, 5.30

Unit No 6: Estimation

6.1. Introduction to Statistical Inference.

6.1.1. Estimation of Parameters.

6.1.2. Types of Estimation.

6.1.3. Difference between an estimator and an estimate.

6.2 . Point Estimation.

6.2.3. Unbiased Estimator.

6.3.1. Confidence Interval. Main points about Confidence Interval.

6.3.2. Large Sample Confidence Interval for Population Mean μ (When σ is known).

6.3.3. Large Sample Confidence Interval for Population Mean (When σ is unknown). Degrees of Freedom. (Page 213)

6.3.9. Confidence Interval Estimate for Population Proportion P (Large Sample Size).

Examples	6.1, 6.3, 6.5, 6.10, 6.11
Questions	6.5, 6.6, 6.10(i), 6.13, 6.14, 6.15, 6.16, 6.18, 6.19, 6.26

Unit No 7: Hypothesis Testing

7.1.1. Hypothesis Testing.

7.1.2. Principle Steps Involved in Hypothesis Testing.

7.1.3. Definition of Key Terms (Page 233 to 236).

7.2 . General Procedure for Testing Hypothesis about Mean μ of a Normal Population when σ^2 is known.

7.2.1. Procedure for Hypothesis Testing about μ when σ is unknown [Large Sample].

7.2.6. Procedure of Testing Hypothesis about Population Proportion P (Large Sample).

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Examples	7.1, 7.2, 7.3, 7.4, 7.11
Questions	7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.14, 7.24, 7.25, 7.26

Unit No 8: Association of Attributes

8.1.1. Notation and Terminology for Attributes.
8.1.2. Classification of Attributes (Page 268, 269 and 270).
8.1.3. Association of Attributes.
8.1.4. Method of Measures of Association.
8.2.2. Shortcut Method of Calculating χ^2 in case of (2 x 2) Contingency Table.

Examples	8.1,8.2, 8.5
Questions	8.4, 8.5, 8.7, 8.10, 8.12, 8.14

Unit No 9: Design of Experiment

9.1. Introduction to Design of Experiment.
9.1.1. Explanation of Basic Terms.
9.1.2. Basic Requirements or Principles of a Good Design (i), (ii), (iii).

Questions	9.4, 9.5, 9.7, 9.8

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ECONOMICS-XII

NATIONAL INCOME

- Definition of National Income
- Different Concepts of National Income
- Methods of Measurement of NI
- Circular Flow of NI in Two Sector Economy
- Concepts of Average Propensity to Consume, Marginal Propensity to Consume, Average Propensity to Save and Marginal Propensity to Save
- Equilibrium of National Income

Money

- Barter Systems and its difficulties.
- Definition of Money and its function
- Types of Money
- Instruments of Credit Money
- Definition of Demand for and Supply of money
- Value of Money
- Quantity Theory of Money

Bank

- Definition of Bank
- Types of Bank
- Functions of Commercial Banks
- Central Bank and its Functions

Public Finance

- Definition, Differences and Similarities of Public Finance and Private Finance
- Public Revenue
    I. Non Tax Revenue and its sources
    II. Tax Revenue
        i. Direct Tax
        ii. Indirect Tax
- Canons of Taxation
- Concepts of Progressive, Proportional and Regressive Taxation

International Trade:

- Definition, Difference between International and Domestic Trade
- Advantages and Disadvantages of International Trade
- Classical Theory of International Trade
    i. Absolute Advantage
- Balance of Trade, Balance of Payment
- Major Exports of Pakistan

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- Definition of Globalization

National Income of Pakistan

- Causes of Low per Capita Income of Pakistan and their remedies

Economic Development and Planning

- Definitions of Economic Development and Economic Planning
- Importance of Agriculture Sector of Pakistan
- Problems of Agriculture Sector of Pakistan and their possible solutions
- Problems of Industrial Sector of Pakistan and their possible remedies.
- Causes of unemployment in Pakistan and their possible solutions
- Causes of inflation in Pakistan and their possible solutions

Banking in Pakistan

- Interest Free Banking in Pakistan

Economic System of Islam

- Comparison between Socialism, Capitalism and Islamic Economic System.

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COMPUTER SCIENCE-XII

1. OPERATING SYSTEM

1.1 Introduction

1.1.1 An Operating system

1.1.2 Commonly used operating system

1.2 Operating System Functions

1.3 Process Management

1.3.1 Process

1.3.2 Process states

1.3.3 Threads and processes

1.3.4 Multitasking and Multithreading

2. SYSTEM DEVELOPMENT LIFE CYCLE

2.1 Introduction

2.1.2 System Development Life Cycle and its importance

2.1.4 Stakeholders of SDLC

2.1.5 System Development Life Cycle Phases

3. OBJECT ORIENTED PROGRAMMING USING C++

3.1 Introduction

3.2 C++ Constants and Variables

3.3 Input/ Output Handling

3.4 Operators in C++

4. CONTROL STRUCTURES

4.1.1(a) if statement

4.1.1(b) if-else statement

4.1.1(c) switch-default statement

4.2.1(a) for loop

4.2.1(b) while loop

4.2.1(c) do-while loop

5. ARRAYS AND STRINGS

5.1.1 Concept of arrays

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5.1.4 Definition and and initialization of an array

5.1.6 Traversing an array

5.3.1 What is String?

5.3.3 Initializing a string

5.3.4(a) Concatenation of strings

5.3.4(b) Copying of strings

6. FUNCTIONS

6.1 Functions

6.1.1 Concept and types of functions

6.1.2 Advantages of using functions

6.1.3 Function signature

6.1.4 Components of functions

6.1.5 Scope of variables

6.1.6 Formal parameters and actual parameters

6.1.7 Local and Global functions

6.2.1 Passing arguments

6.2.3 return statement

6.3 Function overloading

7. POINTERS

7.1.1 Pointer

7.1.3 Reference operator &

7.1.4 Dereference operator *

8. OBJECTS AND CLASSES

8.1.1 Class and object

8.1.3 Access specifiers

8.1.4 Data hiding

8.1.5 Constructor and destructor

`

COMPUTER SCIENCE- XII

LIST OF PRACTICALS

C++ PROGRAMMING LANGUAGE

Programs in C++ related to the following topics.

- Download installation and brief introduction of C++ compilers.
- Input/output statements.
- Operators
- Decision control structure – if, if-else and switch-default statements.
- Looping control structure – for, while and do-while
- Arrays – One dimensional
- Functions
- Objects and Classes

Note: The scope/level of programming can be followed as given in the Textbook of Computer Science for XII (Khyber Pakhtunkhwa Textbook Board Peshawar)

HEALTH & PHYSICAL EDUCATION-XII

باب نمبر	عنوان / ذیلی عنوان		Page No.
01	1. غیر متعدی امراض		01-10
02	1. نظام دوران خون اور ورزش		11-22
03	1. ڈوپنگ	(Doping)	23-27
05	1. زبانی وجسمانی تشدد		49-52
06	1. کھیل اور بائیو مکینکل اصول		53-54
	• حرکت	(Motion)	
	• قوت	(Force)	
	• نیوٹن کے قوانین حرکت	(Newton's Law of Motion)	
	• توازن	(Equilibrium)	
	• مرکز ثقل	(Center of Gravity)	
07	1. کھیلوں کے قوانین اور مہارتیں		
	• لمبی چھلانگ	(Long jump)	70-74
	• نیزہ پھینکنا	(Javelin Throw)	82-88
	• بیڈمنٹن	(Badminton)	96-104
	• باسکٹ بال	(Basketball)	123-132
	• نیٹ بال	(Netball)	133-143

Reduced list of Practical for (Class-XII) Health & Physical Education.

1. Long Jump	لمبی چھلانگ
2. Javelin Throw	نیزہ پھینکنا
3. Badminton	بیڈمنٹن
4. Basket ball	باسکٹ بال
5. Netball	نیٹ بال

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HOME ECONOMICS-XII

FOOD AND NUTRITION

1. Definition of foods, its importance and functions.

2. Study of food nutrients (carbohydrates, proteins, fats, minerals, vitamins and water)
   v. Classification
   vi. Sources
   vii. Functions
   viii. Effects of deficiency in diet
   ix. Diseases and symptoms
3. Food selection
   v. RDA's (recommended dietary allowances)
   vi. Food habits
   vii. Factors effecting food selection
   viii. Principles of food cooking
      a) Fats rich food
      b) Protein rich food

CLOTHING AND TEXTILES

4. Study of fibers (cotton, wool, silk)
   i. Characteristics
   ii. Simple methods of identification
   iii. Care and storage
5. Sewing machine
   i. Care and usage
   ii. Principles of sewing
   iii. Sewing box

Practicals:

4. Drafting and stitching of kameez
5. Basic color wheels (primary, secondary, tertiary)
6. Weaving (plain, twill, basket, satin)
7. Plan a day menu for your family

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GENERAL MATHEMATICS- XII

UNIT 1	***Introduction to Symbolic Package: MAPLE***
Unit 1	Complete unit

UNIT 2	***Functions and Graphs***
Page 22-23-24	Example 1, 1,2
Page 25-26-27	Example 1,2,3,4,5
Exercise 2.1	Q 2,4,6,7
Page 32	Example 2
Page34-36	Example 1,2,5,6
Page 38-39	Example 1:(b, c), 2:(b, c, e)
Page 41	Example 3
Exercise 2.2	Q 1:(c, d, f, g), Q 2:(c, e), Q 4:(b, d), Q 6:(a, b, c, d), Q 7:(a, b, c), Q 8:(i, vi, ix, viii, xi, xii), Q 9
Page 44-45	Example 1,3
Exercise 2.3	Q 2:(i, ii, iii, iv), Q 4:(i, ii, iii, iv), Q 5, Q 6:(i, ii, iii, iv), Q 7, Q 10:(a, b)
Exercise 2.4	Q 1:(i, v), Q 2:(i, v), Q 3:(i, iii, iv), Q 4:(i, iv, v), Q 5:(i, ii), Q 6:(i, iv), Q 8,10,11
Page 78-79-80-83	Example 1,2,1
Exercise 2.5	Q 1,3,4,6,7

UNIT 3	***Plane Analytic Geometry Straight Line***
Page 92-93	Example 1:(i, iii), 2 ,4
Page 97	Example 1
Exercise 3.1	Q 1:(a), Q 3,4,5,8
Page 104	Example 1
Page 107	Example 1,2
Exercise 3.2	Q 1:(i, ii, iii), Q 2:(i, ii, iii), Q 3:(a, b), Q 4
Page 110-111-112	Example 1,1,2
Page113-114-115	Example 5,6,1,1
Page 118-120-123	Example3,4,1
Exercise 3.3	Q 1:(a, b), Q 2,3,4,5,7
Page 131-132-133	Example 1,2,4
Exercise 3.4	Q 1,2,5,6,8
Page 136	Example 1
Exercise 3.5	Q.No . 1,2,3,10
Page 139-140-141	Example 1,2
Exercise 3.6	Q 1,4,5,6,9,10

UNIT 4	***QUADRATIC EQUATIONS***
Page 147	Example 1
Page149	Example 5
Exercise 4.1	Q 1:(i, iii, v, vii, ix), Q 2:(i, ii, iii), Q 3:(i, iii, v, vii)
Page 152	Example 1
Exercise 4.2	Q: 1,3,6,11,12
Page 154-156	Example 1,2
Page 158-160	Example 2

`

Exercise 4.3	Q: 1,5,8,9,10,13
Page 162-165	All examples given on the pages
Exercise 4.4	Q: 1,3,5,7,9
Page 167-168	All example given on the pages
Exercise 4.5	Q 1:(i, ii, iii, iv), 2, Q:3:(i), Q 4:(i),5,6,7,8,9
Page 171-173	Example 1,2,3,4
Exercise 4.6	Q: 2,3,5:(a, b, d, e, f),6,7
Page 177	Examples 1,2
Exercise 4.7	Q: 1,4:(a, b, c, d, e, f, g, h),5,6,8,9:(i)
Page 180	Example 1
Page 183	Example 2
Exercise 4.8	Q: 1,3,4,6,8,12
Page 185-186	Example 1,2
Exercise 4.9	Q: 1,2,3,6,7,10,11

UNIT 5	***PARTIAL FRACTIONS***
Page 193	Example 2
Exercise 5.1	Q: 1,2,3,4
Page 195	Example 1
Exercise 5.2	Q: 2,3,4,10
Page 196	Example 1
Exercise 5.3	Q: 1,2,3,8
Page 198	Example
Exercise 5.4	Q: 1,3,9,10

Chapter 6	**Permutation and Combination**
Page206-207	Example 3, 6
Exercise 6.1	Q1 (i, iv), Q 2 (i, ii, vi), Q4, Q5(ii)
Page 209	Example 1
Page 211	Example 2
Page 212	Example
Exercise 6.2	Q1,2,3,4,5
Page213-214	Example 1,2
Exercise 6.3	Q1,2,3,4,5
Page 215	Example 1
Exercise 6.4	Q 1,2,3,4
Page218-219	Example 1, Example 3
Exercise 6.5	Q 1,2,3,4,5

Chapter 7	**Mathematical Induction and Binomial Theorem**
Page225-227	Example 1, 2
Exercise 7.1	Q 1,4,8,10,12,13(i), 14(b, c), 15(i, iii)
Page 235	Example
Page237-238	Example 1,2,3,4
Page 240	Example 6
Exercise 7.2	Q1 (i, iii), 2 (ii, iv), 3 (iii, iv), 4 (i, ii), 5 (ii,iv), 6 (ii, iv), 7 (i, ii),11
Page 245	Example 1
Page 247	Example 4, 5(i)

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Exercise 7.3	Q1 (i, iii), 2,3 (i, iii), 5,6,7,8,11

Chapter 8	**Limit and Continuity**
Exercise 8.1	Complete
Page 261	Example 1, 2
Page264-65 266	Example 1,2,4 5
Exercise 8.2	Q1(i ,ii ,iii, iv, v, vi, vii, viii), Q2 (i, ii, iii, vi, viii, ix)
Page 268	Example 1, 2
Page 271	Example 4
Page 273	Example 6
Exercise 8.3	Q1 (i, iii, v ,vii ,ix), Q2 (ii, iii, v, viii, x, xi), Q3 (i, ii, iii,v)
Page277-278	Example 1,2,3, 4
Exercise 8.4	Q1 (i,.v), Q2 (i, ii), Q5 (ii), Q7 (i, ii), Q8 (ii, iii), Q9

Chapter 9	**Differentiation**
Page 289	Example 1
Page 292	Example
Exercise 9.1	Q1 (ii, iii,,v), Q2 (all), Q3 (all)
Page 294	Example 1
Page 296-297-300	Example 2,3,4
Exercise 9.2	Q1 (ii, iii, v, vi), Q2 (i, iv), Q3 (v, vi, vii, viii), Q4 (i, ii)
Page 303-306	Example 1,1,4
Exercise 9.3	Q1 (i, iii, iv, viii, x), Q2 (i, ii, v, vi, viii)
Page 309-310-311-312	Example 1, Example 3, Example 4
Page 313-314	Example 1,2
Exercise 9.4	Q1 (iv, v, vii, viii), Q2 (i, iv, v, vii, viii), Q3 (i, iii, iv, vi, vii, ix, x)

Chapter 10	**Application of Derivation**
Page321-325	Example 1, 2,3,4
Exercise 10.1	Q1 (i, iii, viii, x), Q2 (i, ii, iii, iv), Q3 (i, ii), Q4
Page 328-329	Example 1, 2
Exercise 10.2	Q2 (i, ii ,iii), Q4, Q5, Q6, Q7
Page 333-334-336	Example 1, 2, 3
Exercise 10.3	Q1 (iii, iv), Q2 (i, ii, iii), Q3 (ii, iii), Q4, Q5
Page339340-341	Example 1, 2, 4
Exercise10.4	, Q3, Q4, Q5, Q7, Q10

Chapter 11	**Integration**
Page 352	
Exercise 11.1	Q1 (i, ii, vi), Q3, Q6
Page354-355	Example 3,5
Exercis11.2	Q2, Q4, Q6, Q8, Q10
Page357-358	Example 1, 2,3,4
Exercise11.3	Q1, Q2, Q6, Q8, Q9, Q10, Q11
Page361-362	Example 1,2, 3
Exercise11.4	Q1 (i, ii, v, vi, ix, x), Q3
Page363-365	All Examples
Exercise11.5	Q1, Q3, Q4, Q8, Q10

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Page 370	Example 5
Page 371	Example 7, 8
Exercise11.6	Q1, Q2, Q4, Q7, Q9, Q10
Page374-375	Example 1, 3
Exercise11.7	Q1, Q4, Q5, Q6, Q8

Chapter 12	**Differential Equations**
Page380-384	All Examples
Exercise 12	Q1, Q2, Q3, Q4, Q5, Q6

ISLAMIC STUDIES-XII

باب	مضمون	ذیلی عنوانات
باب اول	قرآن مجید	ا) اعجازُ القرآن iii۔ تنوّع iv ۔دائمی ضابطۂ حیات ب)ترجمہ و تفسیر قرآن: • اصول تفسیر چند مشہور تفاسیر کا اجمالی جائزہ: • تفہیم القرآن، ضیاء القرآن، معارف القرآن، تفسیر عثمانی، بیان القرآن ج)قرآن مجید کے اساسی مباحث: • معاشی مسائل(سورۃ البقرۃ آیت نمبر188) • اور سورۃ یوسف آیت نمبر120 قصص الانبیآء(سورۃ ھود آیت نمبر111) • اورآیت نمبر9 تزکیۂ نفس(سورۃ الشّمس آیت نمبر10) • تدبیر منزل(سورۃ البقرۃ آیت نمبر15،20) • سیاست مدنیۃ(سورۃ النسآء آیت نمبر59) د)عبادات • انفاق:زکوٰۃ وصدقات اور خیرات تا معاشرتی اہمیت ہ)سیرت رسول ﷺ کا قرآن مجید کی روشنی میں مطالعہ • اولین مسلم معاشرہ کے رہنما اصول و)منتخب آیات قرآن: • سورۃ البقرۃ آیات نمبر: 275, 274, 273, 269, 268, 278، 279، 281,282,285,286
باب دوم	حدیث:	حدیث کا لغوی مفہوم تا حدیث کی تشریعی حیثیت منتخب احادیث کا خصوصی مطالعہ: احادیث نمبر:26، 29، 30, 31, 33, 35, 38, 40, 42, 44, 46, 47, 49، 50

باب سوم	علمی پیش رفت میں مسلمانوں کی خدمات	1۔ چند نمایاں علوم کا تذکرہ اور مسلمان علماء کی خدمات: ا) دینی علوم ۴) سائنسی علوم (مکمل) عصر حاضر اور مستقبل میں علمی پیش رفت کے حوالے سے امت مسلمہ کی ذمہ داریاں
باب چہارم	اسلام کا نظام حکومت و ریاست	ا۔ اسلامی نظام حکومت کا تصور ۲۔ اسلامی نظام حکومت کے اصول ۴۔ دور جدید میں اسلامی ریاست کے لئے ممکنہ کوششیں (ایمان کی تازگی سے پہلے تک)
باب پنجم:	عصر حاضر اور اسلامی ریاستیں	غیر مسلم ریاستوں میں مسلمانوں کی دینی، سماجی اور ثقافتی مشکلات اور ان کا حل؛ پاکستان بحیثیت اسلامی فلاحی ریاست
باب ششم:	عربی زبان و ادب	• سورۃ الفاتحۃ • سورۃ الضّحیٰ • امیر المؤمنین حضرت عمر رضی اللہ تعالیٰ عنہ کا • حضرت ابو موسیٰ اشعری رضی اللہ تعالیٰ عنہ کو خط • باب شروط الصّلوٰۃ • مقدمہ ابن خلدون (اقتباس) • بَاب فی ذکرِ الاَدبِ وَمکانہ منَ التّصوّف

CIVICS- XII

باب	عنوان / ذیلی عنوان
1. پاکستان کا نظام حکومت	(الف) حکومت پاکستان • حکومت پاکستان کی ساخت کی بنیادیں (ب) حکومت کے ادارے • پاکستان میں مقننہ کے افعال یا فرائض • پاکستان میں عاملہ یا انتظامیہ کے فرائض • پاکستان میں سپریم کورٹ کے افعال یا فرائض • عاملہ، مقننہ اور عدلیہ کا جمہوریت اور آمریت کے ادوار میں موازنہ • پولیس کی ذمہ داریاں • بطور حکومتی ادارہ فوج کا کردار
2. بچوں اور خواتین کے حقوق	• بچے • بچوں کے حقوق پر معاہدہ کی ضرورت • بچوں کے حقوق کے کنونشن میں دیئے گئے حقوق اور اسلام میں بچوں کے حقوق کا موازنہ • خواتین کے خلاف امتیازات ختم کرنے کا کنونشن اور اسلام میں خواتین کے حقوق
3. سیاسی اقتصادیات	• پاکستان کی معیشت پر اقتصادی عالمگیریت کے مثبت اور منفی اثرات • خود انحصاری پر مبنی اقتصادیات کے لوازمات • عالمی تجارت کے معاہدات کا پاکستان پر اثرات • معاشی استحکام کے حصول میں پاکستان کی مشکلات
4. بین الاقوامی تنازعات اور حل	• موجودہ عالمی تنازعات کا تاریخی پس منظر • عالمی تنازعات کی وجوہات • تنازعات کے حل کے لئے موثر حکمت عملیاں • عالمی عدالت انصاف کے فرائض • بین الاقوامی تنازعات میں ثالثی اور گفتگو شنید کے لیے افراد کا کردار

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5. علمی مہارتیں	• ویب سائٹس کا استعمال • مسائل کے حل کے لیے سرکاری پالیسی کی تجویز • معلومات اور اطلاعات کے پھیلاو کے طریقے
6. سیاسی جماعتیں اور سماجی تحاریک	• سیاسی جماعتیں ، ساخت اور بناوٹ • پاکستان میں جمہوریت کے فروغ کے لیے سیاسی جماعتوں کا کردار • سماجی تحریک • پاکستان کو بطور اسلامی، جمہوری اور فلاحی ریاست کے بنانے میں سماجی تحاریک کی اہمیت • مقامی سطح پر امن کے فروغ کے طریقے
7. امن اور تنوع	• امن • پُر امن معاشرے کی اہمیت • پُر امن معاشرے کی خصوصیات • مقامی، قومی اور عالمی سطح پر تنازعات اور جنگوں کے نتائج اور اثرات • امتیازات • تنوع • سٹیریوٹائپ • فرضی قصوروار • متنوع معاشروں کے خصوصیات • پاکستانی معاشرہ میں تنوع سے پیدا ہونے والے مسائل • ہماری زندگی اور معاشرے میں مختلف ثقافتوں، اقدار اور عقائد کا کردار • معاشرے میں تنوع اور رواداری کا فروغ اور انداز زندگی
8. فعال اور ذمہ دار شہریت	• عوامی خدمت کا پیغام • دستخطی مہم • کمیونٹی سروس • سانحہ یا حادثہ • سانحات کا انتظام

ISLAMIC HISTORY-XII

باب	عنوان / ذیلی عنوان
1. ابوالعباس عبداللہ سفاح	1. ابوالعباس عبداللہ سفاح
	i. تعارف ii. صوبائی تنظیم نو iii. وزارت اور ابو سلمہ کا قتل
	iv. بغاوتیں v. فتوحات vi. وفات
	2. ابو جعفر منصور
	i. تخت نشینی ii. عبداللہ بن علی کی بغاوت iii. ابو مسلم کا قتل
	iv. افریقہ میں بغاوتیں v. سپین میں بنو امیہ کی خلافت کا قیام
	vi. محمد بن عبداللہ کی بغاوت vii. ابراہیم بن عبداللہ کا قتل
	viii. مذہبی پیشوائیت ix. فتوحات
	x. وزارت xi. انتظام سلطنت
	xii. فوجی نظام xiii. دار الخلافہ xiv. سیرت اور کارنامے
2. مہدی، ہادی، ہارون الرشید	1. مہدی
	i. تعارف و تخت نشینی ii. آل علی کی رہائی
	iii. زندیقوں کی بغاوت iv. رومی حملے اور بغاوتیں
	v. ابو عبداللہ یعقوب بن داؤد vi. مہدی کی اصلاحات
	vii. مہدی کی سیرت
	2. ہارون الرشید
	i. تخت نشینی ii. وزارت
	iii. اہل بیت کی بغاوت iv. فتوحات
	v. ولی عہد vi. خاندان برامکہ کا عروج و زوال
	vii. برامکہ کے زوال کے اسباب
	viii. ہارون الرشید کا شاندار دور حکومت ix. سیرت
3. امین الرشید	1. امین الرشید
	i. تخت نشینی ii. ولی عہدی
	iii. امین اور مامون کے درمیان خانہ جنگی
	iv. بغداد کا محاصرہ

	2. مامون الرشید				
	i. مامون الرشید کا پہلا دور (مرو میں)				
	ii. مامون الرشید کا دوسرا دور (بغداد میں)				
	iii. مامون کا سنہری دور اور علمی و ادبی سرگرمیاں				
10. فرقہ معتزلہ فرقہ قرامطہ خاندان بویہ سلجوقی خاندان صلیبی جنگیں	1. فرقہ معتزلہ				
	2. فرقہ قرامطہ				
	3. خاندان بویہ یا ویلمی				
	4. سلاجقہ (سلجوق)				
	i. الپ ارسلان	ii. ملک شاہ	iii. نظام الملک طوسی		
	5. صلیبی جنگیں				
	i. اسباب	ii. واقعات	iii. نتائج		
11. آخری خلفاء خاندان عباسیہ کا زوال	1. بنو عباس کے آخری خلفاء (ایک جائزہ)				
	2. ہلاکو خان کا حملہ اور بغداد کی تباہی				
	3. بنو عباس کے زوال کے اسباب				
	4. انتظامِ سلطنت				
	i. مرکزی حکومت	ii. صوبائی نظام	iii. فوجی نظام		
12. علماء عباسیہ	i. امام ابو حنیفہؒ	ii. امام مالکؒ	iii. امام شافعیؒ		
	iv. امام احمد بن حنبلؒ	v. ابن سینا	vi. الرازی		
	vii. الکندی	viii. الفارابی	ix. الطبری		
	x. المسعودی	xi. ابن الاسیر			
1. مسلمان اندلس میں	1. امیران اندلس				
	2. مسلمان اندلس میں				
	i. اندلس کی وجہ تسمیہ	ii. حدود اربعہ			
	iii. مسلمانوں سے قبل اندلس کی سماجی و معاشرتی حالت				
	iv. راڈرک	v. راڈرک اور فلورنڈا			
	vi. فتح اندلس کے اثرات				
3. امیر عبدالرحمٰن الداخل	1. اصلاحات	2. مسائل و مشکلات			
	3. علمی سرگرمیاں	4. انتظام سلطنت			

	5. سیرت اور کارنامے		6. تعمیرات	
5. عبدالرحمٰن ناصر ثالث	1. تخت نشینی		2. امیر المومنین کا لقب	
	3. فرانس پر حملے		4. جنگ الخندق	
	5. سیرت اور کارنامے			
6. بنو امیہ کے علاوہ اندلس کے دیگر حکمران	1. مرابطین			
	i. یوسف بن تاشفین		ii. اندلس میں آمد	
	iii. جنگ زلاقہ		iv. یوسف بن تاشفین کی دوبارہ آمد	
	v. وفات			
	2. موحدین			
7. نصری خاندان غرناطہ	1. اسلامی سلطنت اندلس کے زوال کے اسباب			
	2. انتظام سلطنت			
	i. مرکزی نظام	ii. فوجی نظام	iii. صوبائی نظام	
8. علمائے اندلس	1. یحییٰ بن یحییٰ لیثی تا ابن حیان			
9. عمارات اندلسیہ	1. رصافہ			
	2. جامع مسجد قرطبہ			
	3. مدینۃ الزہرہ			
	4. قصر الحمرا			

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CLOTHING AND RELATED ART-XII (H/ ECONOMICS GROUP)

1. Introduction to related art
    i. Objectives
    ii. Application in daily living
2. Design
    iii. Definition
    iv. Importance in daily living
3. Different techniques of textile printing
4. Dyeing techniques

Practical

1. Active and passive space (negative and positive space)
2. Types of lines
3. Color study (hue, intensity)
4. Texture study and application on paper

Projects

1. Color wheel
2. Value chart
3. Tie and dye project
4. Stenciling project
5. 3 greeting cards for different occasions

FOOD AND NUTRITION-XII

1. Introduction to food and nutrition
2. Food selection
   Factors considered in selection of various food i-e Meat , Cheese, Vegetables and Fruits
3. Marketing
   Seasonal effects, types, functions and location of markets, food brand and labeling.
4. Family meal management
   Importance, aspects and principles of meal plan and food budgeting.
5. Menu planning
   Objectives and principles of menu planning for families and several occasions/ formal and informal meals, practice of menu planning for various age and income groups.
6. Food spoilage
   Causes, agents and methods of controlling spoilage, rodents, pests and insects

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Practical:

1. Dietary guidelines, conversions tables and oven temperature guides.
2. Menu planning for meals and parties for different income groups, planning preparation and service for various occasions.
3. Planning and preparation of breakfast, snack, lunch and dinner.
4. Budgeting of meals for number and cost
5. Practice of various table setting/ services

HOME MANAGEMENT-XII

1. Home management and operation
   Definition, women's role as home economist, problem of employed home maker and its management.
2. Management for and by the families
   Definition and stages of family problems at various stages and their management.
3. Work simplification
   Definition, classes/levels of change to simplify work techniques for studying work simplification.
4. Kitchen and storage
   Definition, types of kitchen, principles of storage, importance and functional storage.
5. Family and social culture changes
   Definition and causes of change, obvious change in society factor causing change and family managing change.
6. Families under stress
   Definition, sources of stress and family responses to stressful situation, violence, divorce, illness, abuse and death.

CHILD DEVELOPMENT-XII

1. Introduction to the study of family life.
   Meaning and scope of family relations and child-development functions and types of the family reproductive, economics, status conferring, socialization and security, social change and family function.
   Cultural regulations of the family patterns.
2. Sociology of the family
   Family as a social institute.
3. Family development and ''Development Tasks'' concept.
   The family life cycle-beginning families, child-families, families with school -age children, teenagers and families as launching center aging families.
   Family development task at each of the above stages.
4. Adult behavior and personality
   i. The components of healthy personality, Erickson's theory of psychological development, sense of trust, sense of autonomy, sense of initiative, sense of identity and sense of integrity.

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ii. The self-structure in healthy personality. The home static behavior emotional maturity, adjustment mechanism, displacement and idealization.

iii. The dynamic of family interaction

a) Social change and family organization. Values, functional roles and responsibilities. Understanding the aged, appreciation of their needs and outlook on life.

b) Family crises (unemployment, illness, death, divorce, desertion, family disorganization in terms of values and cultural analysis.

5. Parenting styles

i. Democratic

ii. Pessimistic

iii. Authoritative

URDU ADVANCE-XII

نمبر شمار	درسی کتاب کا صفحہ نمبر	نثری اصناف	عنوان	مصنفین
.1	۲تا۱۰	سیرت نگاری	منزلِ نبوّت ﷺ کی سمت	نصیر احمد ناصر
.2	۱۱تا۱۷	خاکہ نگاری	ظفر علی خان	چرغ حسن حسرت
.3	۳۳تا۳۷	مضمون نگاری	تعصب	سر سید احمد خان
	۳۸تا۴۳		رشتہ ناتا	محمد حسین آزاد
.4	۶۰تا۶۶	سفر نامہ	نیویارک کا عالمی میلا	مختا رمسعود
.5	۷۲تا۷۶	انشائیہ	ہجرت	وزیر آغا
.6	۷۹تا۸۲	مکتوب نگاری	غالب بنام میر مہدی مجروح	مرزا غالب
			غالب بنام میر سرفراز حسین	
حصّہ نظم				
.1	۹۶تا۹۹	مثنوی	گلزارِ نسیم (انتخاب)	دیا شنکر نسیم
.2	۱۰۲تا۱۰۴	قصیدہ	باب الجنت، منقبت امیر المومنین رضی اللہ تعالیٰ عنہ	مرزا محمد رفیع سودا
حصہ غزل				
.1	۱۱۱تا۱۱۲	غزل نمبر 1	یاد کرنا ہر گھڑی اُس یار کا	ولی دکنی
.2	۱۱۵تا۱۱۶	غزل نمبر 1	دل کے تئیں آتش ہجراں سے بچایا نہ گیا	میر تقی میر
.3	۱۱۹تا۱۲۰	غزل نمبر 2	گُل سے خوش رنگ ہر اک داغ بدن مجھ کو دیا	خواجہ حیدر علی آتش
.4	۱۲۲تا۱۲۴	غزل نمبر 2	ہر ایک بات پہ کہتے ہو تم کہ تو کیا ہے	مرزا غالب
.5	۱۲۷تا۱۲۸	غزل نمبر 1	نہیں عشق میں اُس کا تو رنج ہمیں کہ قرار شکیب ذرا نہ رہا	
.6	۱۴۸تا۱۴۹	پاکستانی زبانوں کے تراجم	رحمان بابا	مترجم محمد زمان مضطر
نوٹ: حصہ غزل سے صرف اُن غزلوں کے سوالات دیئے جائیں جو شامل نصاب ہوں				
.1	شعری اصناف		مثنوی، قصیدہ، غزل، منظوم تراجم	
.2	نثری اصناف		سیرت نگاری،، شخصی خاکہ، مضمون، سفر نامہ، انشائیہ، مکتوب نگاری	

PASHTO-XII

نمبرشمار	د درسي کتاب صفحه	عنوان	مصنف
.28	۱ نه ۳	حمد	عبدالعظيم رانيزے
.29	۴ تا ۶	نعت	عبدالرحمان بابا
		د نثر برخه	
.1	۷ نه ۱۴	ګاڼۍ ګرځيده	اميرحمزه خان شينواري
.2	۱۵ نه ۲۴	لرغوني پښتانۀ	پروفيسرحافظ محمد ادريس
.3	۴۳ نه ۵۷	پښتو ته د خوشحال بخښني	پروفيسر قلندرمومند
.4	۵۸ نه ۷۱	دود دستور	پروفيسر پريشان خټک
.5	۹۳ نه ۱۱۱	د پښتو اولسي سندري	قلندرمومند۔ ترجمه زيبرحسرت
		دويمه برخه: افساني	
.13	۱۱۲ نه ۱۱۸	د افساني پيژندنه	
.14	۱۱۹ نه ۱۲۶	لور خور که غوا مېښه	راحت زاخيلي
.15	۱۴۵ نه ۱۵۳	خود کرده	طاهراپرېدے
		دريمه برخه: ترجمه	
.1	۱۵۴ نه ۱۵۶	د شعر تاثير	پروفيسرمحمد نواز طاهر
		څلورمه برخه: ډرامه	
.1	۱۵۷ نه ۱۷۴	تېر وار	سمندرخان سمندر
		پينځمه برخه: طنزومزاح	
.1	۱۹۳ نه ۲۰۴	سپلانے	سيد تقويم الحق کاکاخيل
		شپږمه برخه: سفرنامه	
.2	۲۱۲ نه ۲۲۱	هجرت	
		اووه برخه: شعري صنفونه: غزل	
.1	۲۳۰ نه ۲۳۲	مېرزا خان انصاري	
.2	۲۳۸ نه ۲۳۹	خوشحال خان خټک	
.3	۲۴۴ نه ۲۴۵	عبدالرحمان بابا	
.4	۲۴۸ نه ۲۴۹	عبدالحميد بابا	
.5	۲۵۶ نه ۲۵۷	علي خان	
.6	۲۶۶ نه ۲۶۷	اميرځمزه خان شينواري	
		رباعی	
.17	۲۶۸ نه ۲۶۹	کاظم خان شېدا	
		قطعات	
.1	۲۷۱ نه ۲۷۴	فضل احمد غر	
		قصيده	
.1	۲۷۵ نه ۲۷۹	خوشحال خان خټک	
		مثنوي	
.1	۲۸۰ نه ۲۸۴	صدرخان خټک	
		مسدس	

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.1	۲۸۹ نه ۲۹۱	معزالله خان مومند	
مرثیه			
.1	۳۰۰ نه ۳۰۵	عبدالغني خان (لېونے فلسفي)	
تضمین			
.1	۳۰۶ نه ۳۰۹	امیرحمزه خان شېنواري	
آزاد نظم			
.1	۳۱۰ نه ۳۱۳	پروفېسر ډاکټرسلمي شاهین	

نمبر شمار	عنوان / ذیلی عنوان	صفحہ نمبر
01	درج بندی	01-04
02	کتابی درجہ بندی کے نمایاں حصائص	04-24
03	علامات	
04	طلب نمبر	37-60
05	لائبریری کی کیٹلاگ سازی • لائبریری کیٹلاگ & تصور • لائبریری کیٹلاگ کی تاریخ اور مفہوم • کے کلام کی خوبیاں یا خصوصیات • لائبریری کے اخلاق کے مقاصد • لائبریری کے کی اہمیت	
06	کیٹلاگ کی اشکال • کتابی کیٹلاگ • کارڈ کیٹلاگ • اوراقی کیٹلاگ • آن لائن کیٹلاگ	
07	کیٹلاگ کی داخلی اقسام	
08	حوالہ جاتی خدمات • حوالا جاتی خدمات کی تعریف اور خصوصیات	
09	اہم حوالہ جاتی کتب	

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باب نمبر	مضامین	تفصیل
.1	تعارف علم جغرافیا	وسعت، شاخیں افادیت، طبعی جُغرافیہ یا اور اس کی شاخیں ہے علم جغرافیہ کا دیگر سائنسی مضامین سے تعلق
.2	زمین بطور ایک سیارہ	تعارف نظام شمسی، روئے زمین بحیثیت ایک سیارہ، زمین کی شکل اور جسامت، پانی اور اس کی تقسیم، زمین کی گردشیں اور اس کے اثرات
.3	کرہ ارض کا پوست	زمین کی اندرونی ساخت، چٹانیں، چٹانوں کی اقسام اور ان کی خصوصیات
.4	زمینی حدوحال زمین	زمین پر پائے جانے والے خدوخال، پہاڑوں کی تعریف، عمر اور اقسام، سطح مرتفع کی تخلیق اور اقسام، میدان ان کی اقسام اور فوائد
.5	عمل عریاں کاری	عمل عریاں کاری، عمل فرسودگی اور اس کی اقسام، تخریبی عمل
.6	کارکنان تعیر و تبدیل	تعارف، تحریبی عمل، دریا کی منازل اور اس کے تعمیری اور تخریبی حدوحال، گلیشیر، اس کی اقسام اور تعمیری اور تخریبی حدوحال، ہوا کا عمل تعمیر و تخریب
پریکٹیکل (عملی) جغرافیہ		
.1	نقشہ کشی اور نقشہ فہمی	
.2	کرہ ارض اور نقشوں کی اطراف کا تعین- شمال کی اقسام	
.3	وقت اور اس کی پیمائش	
.4	پیمانہ (Scale) اور ان کی اقسام وبناوٹ	

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DEVELOPMENT / REVIEW TEAM

Physics

- Dr. Shafqat Hussain, Desk Officer DCTE Abbottabad
- Muhammad Arshid, SS GHSS Lassan Thakral Mansehra
- Muhammad Zahid, Lecturer GPGC No. 1 Abbottabad

Chemistry

- Dr. Shafqat Hussain, Desk Officer DCTE Abbottabad
- Muhammad Arshid, SS GHSS Lassan Thakral Mansehra
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Biology

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Mathematics

- Abbas Khan, Desk Officer DCTE Abbottabad
- Majid Khan, Lecturer GPGC Mandian Abbottabad
- Muhammad Nasim, SS GHSS Muslim Abad

Computer Science

- Sufian Matloob, Desk Officer DCTE Abbottabad
- Ibrar Hussain, Lecturer GPGC Mandian Abbottabad
- Muhammad Usman, Lecturer GPGC Mandian Abbottabad

English

- Inamullah Khan, Desk Officer DCTE Abbottabad
- Muhammad Abdul Basit, SS GHSS Mohar Mansehra
- Babar Ayaz, Associate Prof: GPGC No. 1 Abbottabad

Pakistan Studies /Civics

- Babur Bashir Khan, Desk Officer DCTE Abbottabad
- Sajid Saleem, SS GHSS No. 1 Mansehra
- Aziz Ahmed, Lecturer GPGC No. 1 Abbottabad

Economics

- Muhammad Athar, Desk Officer DCTE Abbottabad
- Taimur Khan, Lecturer GPGC Mandian Abbottabad
- Imad ul Haq, SS GHSS Bagnotar Abbottabad

General Mathematics

- Mukhtiar Muhammad, Desk Officer DCTE Abbottabad
- Muhammad Basharat Jadoon, SS GHSS Sherpur Mansehra
- Muhammad Umer, Assistant Prof: GPGC No. 1 Abbottabad

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- Muhammad Shoukat, Lecturer GDC Oghi Mansehra
- Shah Nawaz Khan, Professor GPGC No. 1 Abbottabad

Islamic History

- Hamid Khan, Desk Officer DCTE Abbottabad
- Muhamad Hanif, SS GHSS Nawansher Abbottabad
- Shahid Hussain, Lecturer GPGC Mandian Abbottabad

Home Economics

- Rafia Naz, Desk Officer DCTE Abbottabad
- Nazish Gulfam, Lecturer Government H/Eco College Abbottabad
- Khushbakht Rafi, Lecturer Government H/Eco College Abbottabad

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Urdu

- Taj Wali Khan, Desk Officer DCTE Abbottabad
- Malik Liaqat, Assistant Prof: GPGC No. 2 Abbottabad
- Abdul Sattar, SS Gali Badral Mansehra

Islamiyat(comp) & Islamic Studies

- Shabana Shaheen, Desk Officer DCTE Abbottabad
- Qazi Muhammad Amir, SS GHSS Bagnotar Abbottabad
- Dr. Mufti Abdul Wahab, Professor GPGC No.1 Abbottabad

Urdu Advance

- Taj Wali Khan, Desk Officer DCTE Abbottabad
- Malik Liaqat, Assistant Prof: GPGC No. 2 Abbottabad
- Abdul Sattar, SS Gali Badral Mansehra

Health & Physical Education

- Samiullah, Desk Officer DCTE Abbottabad
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- Wali Ullah, IPE GHSS Chamiali Abbottabad

Geography

- Dr. Rabi Azhar Associate Professor GPGC No. 1 Abbottabad

Pashto

- Sahib Ullah SS GHSS Sufaid Sang, Peshawar

Library Science

- Muhammad Nawaz Librarian GPGC No.1 Abbottabad

SUPERVISION

- **Mr. Gohar Ali Khan**
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  Khyber Pakhtunkhwa, Abbottabad
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