ACCELERATED
LEARNING
PROGRAMME
(ALP)

تسریع التعلّم پروگرام

برائے
انٹرمیڈیٹ کلاسز

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ENGLISH GRAMMAR AND COMPOSITION

LETTERS

1. Letter to your younger brother advising him to pay attention to his studies and avoid bad company.
2. Letter to your father requesting him to increase your monthly allowance.
3. Letter to your friend describing him/ her your first impression of college life.
4. Letter to your friend inviting him to attend the marriage of your brother/ sister.
5. Letter to your mother/ father describing your progress in studies.
6. Letter to your younger brother/ sister suggesting some methods for improving English.
7. Letter to your brother/ uncle/ friend thanking him for sending you a beautiful gift on your birthday.
8. Letter to your friend requesting him/ her to lend you some books.
9. Letter to your friend congratulating him/her on his/ her success in his examination.
10. Letter to your friend telling him/her about the profession you want to adopt.
11. Letter to your friend, condoling on the death of his/her mother.
12. Letter to your father about your health and studies.

APPLICATIONS

1. Application to the Principal of your college, requesting him/her for full fee concession.
2. Application to the Principal of your college, requesting him/her to grant you sick leave on medical grounds.
3. Application to the Principal of your college, requesting him/her for the issuance/ grant of character certificate.
4. Application to the Principal of your college, requesting him/her for remission of fine.

5. Application to the Principal of your college, requesting him/her for re-admission in the college.
6. Application to the Principal of your college, requesting him/her for grant of scholarship/financial help from a special fund.
7. Application to the Principal of your college, requesting him/her for change of subject.
8. Application to the Principal of your college, requesting him/her for refund of library security.

STORIES
1. Honesty is the Best Policy
2. No Pains, No Gains
3. A Foolish Stag
4. The Hen That Laid Golden Eggs
5. The Slave and the Lion
6. A Friend in Need is a Friend Indeed
7. The King and the Spider
8. The Wolf and the Lamb
9. A Stitch in Time Saves Nine
10. Tit for Tat
11. A Rolling Stone Gathers No Moss
12. Grapes are Sour

GENERAL STATEMENT
Teachers will teach the following grammar items in the classroom and will assign the same as homework for the reinforcement:
• Correct use of tenses and verbs
• Punctuation
• Pair of words

NOTE:
o In objective type paper, the question, 'choose the right option of the underlined words" should be given from the retained lessons only.
o Explanation of the stanza with reference to the context will be given from the retained poems only.
o Punctuation will be given from the retained lessons of English Book-I.
o The passage to translate into Urdu will be selected from the retained lessons of English Book-I.
o The students whose medium of instruction is English will write an essay on an unseen topic.

درسی کتاب کے اسباق

(الف) حصہ نثر

1 ۔ اُسوۂ حسنہ (خَاتَمُ النَّبِیِّیْنَ صَلَّی اللہُ عَلَیْہِ وَعَلٰی آلِہٖ وَاَصْحَابِہٖ وَسَلَّمَ)

کلاس ورک:	سوال نمبر 1، 4(ج:i,ii,iii)، 5
ہوم ورک:	سوال نمبر 2،3،4(ج: v, iv) ، 6

2 ۔ اپنی مدد آپ

کلاس ورک:	سوال نمبر 1(ج:i,ii,iii) ، 4 ، 6
ہوم ورک:	سوال نمبر 1(ج: v,iv) ،2،3،5

3 ۔ ابوالقاسم زہراویؒ

کلاس ورک:	سوال نمبر 2(ج:i,ii,iii)،3
ہوم ورک:	سوال نمبر 1،2(ج: v,iv) ،4

4 ۔ سفارش

کلاس ورک:	سوال نمبر 2(ج: ii، iii)، 3 ، 5
ہوم ورک:	سوال نمبر 1،2(ج: iv، v) ،4

5 ۔ لاہور کا جغرافیہ

کلاس ورک:	سوال نمبر 1(ج:i، ii ، iii،iv،v،vi) ،3،4
ہوم ورک:	سوال نمبر 1(ج:vii،viii ،ix ،x)،2،5

6 ۔ مکتوباتِ اقبالؒ

کلاس ورک:	سوال نمبر 2(ج: ii ، iii،iv،v)،5
ہوم ورک:	سوال نمبر 1،2(ج:vi،vii ،viii)،3،4

7 ۔ دوستی کا پھل

کلاس ورک:	سوال نمبر 1(ج: ii ، iii،iv،v) ،3
ہوم ورک:	سوال نمبر 1(ج:vi،vii،viii)،2

8 ۔ اور آنا گھر میں مرغیوں کا

کلاس ورک:	سوال نمبر 2(ج:i,ii,iii)،4،5
ہوم ورک:	سوال نمبر 1،2(ج: iv، v)،3

3_ مرزا خاں داغ   خاطر سے یا لحاظ سے، میں مان تو گیا

| کلاس ورک: | سوال نمبر1(جز iii,ii) ، سوال نمبر2 |
| هوم ورک: | سوال نمبر3(شعر نمبر 3 کی تشریح) ، سوال نمبر4(پہلی چار تراکیب) |

4_ مومن خاں مومن   ٹھانی تھی دل میں، اب نہ ملیں گے کسی سے ہم

| کلاس ورک: | سوال نمبر1(جزiii:)،3(ii) |
| هوم ورک: | سوال نمبر2(جزii: iv)،4(i،ii ، iii) |

5_ حسرت موہانی   بھلاتا لاکھ ہوں لیکن برابر یاد آتے ہیں

| کلاس ورک: | سوال نمبر1(پہلی غزل کے حوالے سے)،3(ii) |
| هوم ورک: | سوال نمبر2(جزi:)،6 |

6_ فیض احمد فیض   نہ گنواؤ ناوکِ نیم کش، دل ریزہ ریزہ گنوا دیا

| کلاس ورک: | سوال نمبر2،1(جزi، ii، iii، iv) |
| هوم ورک: | سوال نمبر3،4،5،(i، ii)،6 |

7_ احمد ندیم قاسمی   اب تو کچھ اور ہی اعجاز دکھایا جائے

| کلاس ورک: | سوال نمبر3(جزi، ii)،4،7(iv) |
| هوم ورک: | سوال نمبر5(صرف دوسری غزل کے حوالے سے) |

قواعد و انشا

(الف)   مکالمہ نگاری

(i)   دو دوستوں کے درمیان علم کے فائدے کے موضوع پر مکالمہ لکھیں۔

(ii)   دو دوستوں کے درمیان جہیز ایک سماجی برائی کے موضوع پر مکالمہ تحریر کریں۔

(iii)   دو سہیلیوں کے درمیان فیشن کے موضوع پر مکالمہ تحریر کریں۔

(iv)   دو دوستوں کے درمیان انٹرنیٹ کے فوائد و نقصانات پر مکالمہ تحریر کریں۔

(v)   دونو جوانوں کے درمیان ملک میں بڑھتی ہوئی بے روزگاری کے موضوع پر مکالمہ لکھیں۔

(vi) بڑھتی ہوئی رشوت ستانی کے بارے میں دو دوستوں کے درمیان مکالمہ تحریر کریں۔

(vii) دو دوستوں کے درمیان استاد کا احترام کے موضوع پر مکالمہ تحریر کریں۔

(viii) دو دوستوں کے درمیان ملک میں بڑھتی ہوئی مہنگائی کے موضوع پر مکالمہ لکھیں۔

(ix) دو دوستوں کے درمیان گداگری ایک لعنت کے موضوع پر مکالمہ تحریر کریں۔

(x) دو دوستوں کے درمیان ہم نصابی سرگرمیوں کے موضوع پر مکالمہ لکھیں۔

(ب) روداد

(i) سیرت النبی (خَاتَمُ النَّبِیِّیْن صَلَّی اللہُ عَلَیْہِ وَعَلٰی آلِہٖ وَاَصْحَابِہٖ وَسَلَّم) کی تقریب کی روداد قلم بند کیجیے۔

(ii) کسی تفریحی مقام کی سیر کی روداد تحریر کریں۔

(iii) کالج میں ہونے والی سالانہ کھیلوں کی تقریب کی روداد تحریر کریں۔

(iv) اپنے کالج میں یومِ اقبالؒ کے حوالے سے ہونے والی تقریب کی روداد تحریر کریں۔

(v) یومِ قائدِ اعظمؒ پر ہونے والی تقریب کی روداد تحریر کریں۔

(vi) یومِ آزادی پر منعقد ہونے والی تقریب کی روداد تحریر کریں۔

(vii) کسی میچ کا آنکھوں دیکھا حال لکھیں۔

(viii) اپنے کالج میں جلسہ تقسیم انعامات کی روداد تحریر کریں۔

(ix) کالج میں منعقدہ مقابلہ حسنِ نعت کی روداد تحریر کریں۔

(x) کسی شادی کی تقریب کی روداد تحریر کریں۔

(ج) درخواستیں

(i) پرنسپل کے نام کریکٹر سرٹیفکیٹ کے حصول کے لیے درخواست تحریر کیجیے۔

(ii) ڈپٹی کمشنر کے نام اپنے علاقے میں پارک کے قیام کی درخواست لکھیں۔

(iii) کالج کے پرنسپل کے نام تعلیمی سیر پر جانے کی درخواست لکھیں۔

(iv) چیئرمین بلدیہ کے نام علاقے کی صفائی کے لیے درخواست لکھیں۔

(v) پرنسپل کے نام جرمانہ معافی کے لیے درخواست تحریر کریں۔

(vi) پوسٹ ماسٹر کے نام پارسل گمشدگی کی بابت درخواست تحریر کیجیے۔

(vii) پوسٹ ماسٹر کے نام ڈاک کی ناقص تقسیم کے بارے میں درخواست تحریر کیجیے۔

(viii) چیئرمین بورڈ کے نام سند جاری کرنے کے لیے درخواست لکھیں۔

(ix) نام خارج ہونے کے بعد، پرنسپل کے نام دوبارہ داخلے کے لیے درخواست لکھیں۔

(x) موٹر سائیکل چوری ہونے کی رپورٹ تھانے میں درج کرانے کے لیے درخواست لکھیں۔

☆ اساتذہ کرام طلبہ کو درج ذیل کی تفہیم/مشق کروائیں اور اعادہ کے لیے ہوم ورک بھی دیں۔

(د) عبارت کی تلخیص/عنوان

(ہ) شعری اصطلاحات (قافیہ، ردیف، مطلع، مقطع)

(و) تشبیہ، تلمیح، استعارہ

(ز) جملوں کی درستی (تذکیر و تانیث کے حوالے سے)

اسلامیات لازمی ۔ 11

باب اوّل: بنیادی عقائد

(i) توحید (عقیدہ کا معنی و مفہوم، توحید کا مفہوم، انسانی زندگی پر عقیدۂ توحید کے اثرات، شرک اور اس کی اقسام) (صفحہ 1، 4 تا 7)

کلاس ورک: تدریسِ سبق، سوال نمبر 1، 3 (صفحہ 19)

ہوم ورک: سوال نمبر 6 (صفحہ 19)

(ii) رسالت (رسالت کا مفہوم و اہمیت، رسالتِ محمدی صَلَّی اللہُ عَلَیْہِ وَعَلٰی اٰلِہٖ وَاَصْحَابِہٖ وَسَلَّمَ اور اس کی خصوصیات، ختمِ نبوّت)
(صفحہ 7، 8، 10 تا 13)

کلاس ورک: تدریسِ سبق، سوال نمبر 7 (صفحہ 19)

ہوم ورک : سوال نمبر 13 تا 15 (صفحہ 19)

(iii) ملائکہ اور آسمانی کتابیں (صفحہ 13 تا 15)

کلاس ورک: تدریسِ سبق

ہوم ورک : سوال نمبر 5 (الف، ب) (صفحہ 19)

(iv) عقیدۂ آخرت (عقیدۂ آخرت کا مفہوم واہمیت، عقیدۂ آخرت کے انسانی زندگی پر اثرات) (صفحہ 15، 17، 18)

کلاس ورک:		تدریسِ سبق، سوال نمبر 9 (صفحہ 19)

ہوم ورک:		سوال نمبر 11، 12 (صفحہ 19)

باب دوم: اسلامی تشخص

(i) ارکانِ اسلام (کلمۂ شہادت، نماز (مکمل)، روزے کا مفہوم واجتماعی فوائد، زکوٰۃ کا معنی، مفہوم واہمیت، زکوٰۃ کے مصارف، زکوٰۃ کا نصاب، حج، جامعیت، فوائد، جہاد کا مفہوم وفضائل) (صفحہ 20 تا 33)

کلاس ورک:		تدریسِ سبق، سوال نمبر 1 تا 3 (صفحہ 48)

ہوم ورک:		سوال نمبر 4، 5 (صفحہ 48)

(ii) اللہ تعالیٰ اور رسول اللہ صَلَّی اللہُ عَلَیۡہِ وَعَلٰی آلِہٖ وَاَصۡحَابِہٖ وَسَلَّمَ کی محبت واطاعت		(صفحہ 33 تا 34)

کلاس ورک:		تدریسِ سبق

(iii) حقوق العباد (والدین، اساتذہ اور غیر مسلموں کے حقوق) (صفحہ 34، 35، 37 تا 39)

کلاس ورک:		تدریسِ سبق، سوال نمبر 6 جزوی	(صفحہ 48)

ہوم ورک:		سوال نمبر 8 جزوی	(صفحہ 48)

(iv) معاشرتی ذمہ داریاں (محاسنِ اخلاق: دیانت داری، عدل وانصاف، کسبِ حلال، ایثار۔ رذائلِ اخلاق: جھوٹ، غیبت، منافقت) (صفحہ 39 تا 46)

کلاس ورک:		تدریسِ سبق، سوال نمبر 10، 11 (جزوی) (صفحہ 48)

ہوم ورک :		سوال نمبر 12، 14 (صفحہ 48)

باب سوم: اسوۂ رسولِ اکرم صَلَّی اللہُ عَلَیۡہِ وَعَلٰی آلِہٖ وَاَصۡحَابِہٖ وَسَلَّمَ

(i) رحمۃُ لِّلّعالمین (صفحہ 49 تا 51)

کلاس ورک:		تدریسِ سبق، سوال نمبر 1 (الف، ب) (صفحہ 56)

ہوم ورک:		سوال نمبر 1 (ج، د) (صفحہ 56)

(ii) صبر واستقلال (صفحہ 52 تا 53)

کلاس ورک:		تدریسِ سبق

ہوم ورک :		سوال نمبر 5 (صفحہ 56)

(iii) ذکر (صفحہ 54 تا 55)

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کلاس ورک:	تدریسِ سبق
ہوم ورک :	سوال نمبر 6 (صفحہ 56)

باب چہارم: تعارفِ قرآن وحدیث

(i) تعارفِ قرآن (قرآنِ مجید کا نزول، قرآنِ مجید کی حفاظت، قرآنِ مجید کی ترتیب، عہدِ صدیقیؓ میں قرآنِ مجید کی جمع آوری اور تدوین)
(صفحہ 58، 60، 61)

کلاس ورک:	تدریسِ سبق، سوال نمبر 1 (جزوی) (صفحہ 74)
ہوم ورک:	سوال نمبر 4، 5 (جز الف) (صفحہ 74)

(ii) تعارفِ حدیث (حدیث کے معنی، حدیث کی دینی حیثیت، حدیث کی حفاظت، تدوینِ حدیث، دورِ اوّل، اصولِ اربعہ)
(صفحہ 64 تا 67)

کلاس ورک:	تدریسِ سبق، سوال نمبر 6، 7 (صفحہ 74)
ہوم ورک:	سوال نمبر 9 (جزوی) (صفحہ 74)

(iii) منتخب آیات: (آیت نمبر 2، 3، 4، 7، 8، 12) (صفحہ 68 تا 71)

آیت نمبر: 2، 3

کلاس ورک:	آیت نمبر 2 اور 3 کے متن کی درست تلفظ کے ساتھ ادائیگی، ترجمہ اور تشریح
ہوم ورک:	ترجمہ اور تشریح نوٹ بک میں لکھنا اور یاد کرنا

آیت نمبر: 4، 7

کلاس ورک:	آیت نمبر 4 اور 7 کے متن کی درست تلفظ کے ساتھ ادائیگی، ترجمہ اور تشریح
ہوم ورک:	ترجمہ اور تشریح نوٹ بک میں لکھنا اور یاد کرنا

آیت نمبر: 8، 12

کلاس ورک:	آیت نمبر 8 اور 12 کے متن کی درست تلفظ کے ساتھ ادائیگی، ترجمہ اور تشریح
ہوم ورک:	ترجمہ اور تشریح نوٹ بک میں لکھنا اور یاد کرنا

(iv) منتخب احادیث (حدیث نمبر 2، 4، 5، 8، 10,11) (صفحہ 72 تا 73)

حدیث نمبر: 2، 4

کلاس ورک:	حدیث نمبر 2 اور 4 کے متن کی درست تلفظ کے ساتھ ادائیگی، ترجمہ و تشریح
ہوم ورک:	ترجمہ اور تشریح نوٹ بک میں لکھنا اور یاد کرنا

</div>

حدیث نمبر: 8،5

کلاس ورک: حدیث نمبر 5 اور 8 کے متن کی درست تلفظ کے ساتھ ادائیگی، ترجمہ و تشریح

ہوم ورک: ترجمہ اور تشریح نوٹ بک میں لکھنا اور یاد کرنا

حدیث نمبر: 11،10

کلاس ورک: حدیث نمبر 10 اور 11 کے متن کی درست تلفظ کے ساتھ ادائیگی، ترجمہ اور تشریح

ہوم ورک: ترجمہ اور تشریح نوٹ بک میں لکھنا اور یاد کرنا

نوٹ:

جو اسباق (ALP) میں برقرار رکھے گئے ہیں انھیں میں سے معروضی، انشائی طرز کا پرچہ بنایا جائے۔

PHYSICS-11

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Kinetic Theory of Gases (Pg. 237-243), Internal Energy (Pg. 244,245), Work and Heat (Pg. 245,246), First Law of Thermodynamics (Pg. 246-249), Molar Specific Heat of a Gas (Pg. 249, 250), Reversible and Irreversible Processes (Pg. 250, 251), Second Law of Thermodynamics (Pg. 252, 253), Carnot Engine and Carnot's Theorem (Pg. 253-255), Examples: 11.1, 11.2, 11.3, 11.4 (Pg. 243, 244,247, 255,256)

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Homework: Questions: 11.1, 11.6, 11.7 (Pg. 261, 262), Numerical Problems: 11.4, 11.8, 11.11 (Pg. 264)

EXPERIMENTS

1. Find the unknown weight of a body by the method of vector addition of forces.
2. Find the area of cross section of a wire and volume of a small sphere using micrometer screw guage.
3. Find the acceleration due to gravity by oscillating mass spring system.
4. (i) Study the law of conservation of momentum by colliding trolleys and ticker timer for inelastic collision.
   (ii) Study the law of conservation of momentum by colliding trolleys and ticker timer for elastic collision.

5. Study the fall of a body through a viscous medium and hence deduce the co-efficient of viscosity of the medium.
6. Determine Young's modulus of a wire by Searle's apparatus.
7. Find the moment of inertia of flywheel.
8. (i) Determine frequency of A.C. by Melde's apparatus.
   (ii) Determine frequency of A.C. by using electric sonometer.
9. Investigate the law of vibration of stretched strings by sonometer.
10. Determine the wavelength of sound in air using stationary waves and calculate the speed of sound.
11. Determine the focal length of a convex lens by displacement method.
12. Find the refractive index of the material of a prism using spectrometer.

CHEMISTRY-11

CHAPTER 1: BASIC CONCEPTS
TOPIC: (1.3(1.3.1, 1.3.3), 1.5, 1.6, 1.7, 1.8)
Isotopes (Relative Abundance of Isotopes (Pg.3-4), Average Atomic Mass(Pg. 6-6), Concept of Mole, Stoichiometry, Limiting Reactant, Yield (Pg. 11-22)
Classwork: Q.1 (i, ii, iii, v, x), 2Q.(i, ii, iii, v, vii, viii), Q.3 (i, v, vi, viii) Q.9 to Q.18, Q.20, Q.21,Q.22,Q.25
Homework: Q.5 (a, b), Q.6, Q.7, Q.8 (vi, vii, viii)

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TOPIC: (2.3, 2.4, 2.5)
Solvent Extraction, Chromatography (Pg. 34 to 37).
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Gas Laws, Dalton's Law of Partial Pressure (Pg. 41 - 57). Kinetic Molecular Theory of Gases, Kinetic Interpretation of Temperature (Pg. 60 - 65). Plasma State (Pg. 73 - 75).
Classwork: Q.1 (i, ii, iii, iv, v, vi, vii, viii), Q.2 (i, ii, iii, v)Q.3(i, ii), Q.8,9, 16,17, 18, 19, 20, 22, 23
Homework: Q.4, Q.5, Q.6, Q.7, Q.10, Q.12.

CHAPTER 4: LIQIUIDS AND SOLIDS
TOPIC: (4.1, 4.3, 4.4, 4.5, 4.6)
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QUESTIONS ON LIQUIDS

Classwork: Q.1 (i, ii, iii, iv), Q.2 (i, ii, iii, iv, v, vi, viii), Q.3 (i, ii, iii, iv, v, vi, ix), Q.4, Q.5, Q.6, Q.7,Q.8.

Homework: Q.12.

QUESTIONS ON SOLIDS

Classwork: Q.1 (ii, iii, iv) Q.2, Q.12(vi, vii, viii, ix, x, xi)

Homework: Q.4, Q.5, Q.6.

CHAPTER NO 5: ATOMIC STRUCTURE

TOPIC: (5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8)

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Wave-Particle Nature of Matter (Dual Nature of Matter), Heisenberg's Uncertainty Prince, (Pg. 138- 146).

Classwork: Q.1 (i, ii, iii, iv, v, vii, vii, viii, ix,), Q.2 (i to viii), Q.3, Q.4, Q.17, Q.19, Q.23, Q.24, Q.25

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Homework: Q.4, Q.5, Q.7, Q.8, Q.9, Q.11, Q.12.

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Homework: Q.6, Q.7, Q.8, Q.17.

CHAPTER NO: 9 SOLUTION

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Colligative Properties of Solutions, Energetics of Solution (265-277).
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TOPIC: (10.1(10.1.1, 10.1.2), 10.2, 10.3, 10.4)
Definition of Electrochemistry, Oxidation State and Balancing of Redox Equations (Oxidation Number or State, Finding Oxidation Number of an Element in a compound or a Radical) (Pg. 284-285), Electrolytic Conduction, Electrode Potential, Electrochemical Series (Pg. 289-300).
Classwork: Q.1, Q.2(i, ii, iii, iv, vi), Q.3 (i, ii, iii, iv, v, vi, vii, viii), Q.4, Q.15, Q.16 (b, d, e, g, h).
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CHAPTER NO: 11 REACTION KINETICS
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Rate of Reaction (308-313), Energy of Activation, Finding of Order of Reaction. (Pg. 316-319). Arrhenius Equation (Pg. 322-324).
Classwork: Q.1, 2, Q.3(i, ii, iv, v), Q.8, Q.19, Q.20, Q.21, Q.22.
Homework: Q.4, Q.5, Q.6, Q.7 (i, iii, iv), Q.9, Q.15.

LIST OF EXPERIMENTS (CHEMISTRY) PART- I

1. Crystallization of benzoic acid from water.
2. To separate a mixture of various inks by paper chromatography.
3. Separation and Identification of lead and cadmium ions in a mixture solution by paper chromatography.
4. Determination of heat of neutralization of NaOH and HCl.
5. Preparation of standard solution of alkalies and acids e.g., NaOH, KOH, Oxalic acid, succinic acids.
6. Preparation of solution of H_2SO_4 of approximate strength and then determination of its exact strength with the help of standard Na_2CO_3 solution.
7. To prepare a standard solution of oxalic acid and standardize a solution of NaOH.
8. To determine the solubility of oxalic acid at room temperature .You are provided with 0.1 M NaOH.
9. Determination of acetic acid in vinegar.
10. The given solution contains 15 g of mixture of NaOH and Na_2SO_4 per dm^3. Calculate the amount of NaOH in 45 grams of the mixture. 0.1 M HCl is given.
11. Determination of free alkali in soap.
12. Determination of Na_2CO_3 in washing soda.
13. Determination of percentage of purity of Na_2CO_3 in the given solution containing
14. 10 g. of impure Na_2CO_3 sample/dm^3. You are provide with 0.1 M HCl solution.

15   28.6 grams of washing soda ($Na_2CO_3 \cdot xH_2O$) have been dissolved/dm³. Calculate the number of water molecules of crystallization. You are provide with 0.1 M HCl solution.

16   Determination of $NaHCO_3$ in the given sample of baking soda. 0.1M HCl soln. is provided.

17   8.4 gram M HCO_3 are dissolved per dm³ of solution. Find out At. Wt. of M. 0.05 M H_2SO_4 is given.

18   You are given the solution of $KMnO_4$. Calculate its volume required to prepare 1.0 dm³ of 0.002M $KMnO_4$ solution.

19   The given soln. 'A' contains 10 grams of a mixture of H_2SO_4 and oxalic acid dissolved/dm³. Determine the percentage of H_2SO_4 in the mixture. 0.02M $KMnO_4$ is given.

20   Determine the no of molecules of water of crystallization in a given sample of oxalic acid by permanganate titration. The amount of oxalic acid dissolved per dm³ is 6.3 g.

21   Determination of solubility of oxalic acid at room temperature.

22   To determine the strength of ferrous sulphate solution by titrating it against 0.02M $KMnO_4$.

23   The given solution contains 30 gram of partially oxidized $FeSO_4 \cdot 7H_2O$ dissolved per dm³. Determine the %age of oxidation of the given sample.

24   To determine the strength of given ferrous ammonium sulphate (Mohr's salt) by titrating it against standard potassium permanganate solution.

25   The given solution contains 40g. of $FeSO_4(NH_4)_2SO_4 \cdot xH_2O$ dissolved per dm³. Determine the value of x.

26   Determine the solubility of given sample of Mohr's salt at room temperature. You are provided with 0.02M $KMnO_4$.

27   Prepare a standard (M/10) 250 cm³. Solution of iodine. 0.1 M $Na_2S_2O_3$ is provided.

28   24.8 grams of a sample of alkali thiosulphate ($M_2S_2O_3$) are dissolved in 1 dm³ of the given solution. Calculate the atomic weight of the metal by a volumetric method. Given M/10 iodine solution.

29   20 gram of $Na_2S_2O_3$ are dissolved in one dm³ solution. Find out the %age of sulphur. You are provided with 0.05M iodine solution.

MATHEMATICS-11 (ALGEBRA AND TRIGONOMETRY)

CHAPTER 1: NUMBER SYSTEMS
Classwork: Example 6: (pg.10), Exercise 1.1: Q.1(iii), Q.2(i,vi,x), Q.4(i),
Example 1:(pg.15), Exercise 1.2: Q.4(iv), Q.5(i), Q.9,12, Q.14(ii), Q.15(ii), Q.16(i),
Example 1: (i)(pg.20), Theorems(iii,iv,vi) (pg.21), Example 2: (pg.24),
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Homework: Exercise 1.1: Q.1(iv), Q.2(vii,ix,xi,xii), Q.4(ii), Q.5, Exercise 1.2: Q.4(i,iii),
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Exercise 1.3: Q.2(ii,iv), Q.5 (ii,iv), Q.6(i)

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CHAPTER 3: MATRICES AND DETERMINANTS
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Exercise 3.5: Q.1(i), Q.3(ii)
Homework: Exercise 3.1: Q.3(ii), Q.9, Q.12(i), Exercise 3.2: Q.2(ii), Q.4(iv), Q.7(i),
Q.9(ii), Exercise 3.3: Q.1(i), Q.2(i,ii), Q.3(ii,iv), Q.4(ii), Q.5(i,iii), Q.6(i,iii), Q.14(i),
Q.16, Exercise 3.4: Q.2(ii), Q.5, Q.10(ii), Q.8,11, Exercise 3.5: Q.1(iii), Q.2(ii), Q.4(ii),
Q.5(ii), Q.6

CHAPTER 4: QUADRATIC EQUATIONS
Classwork: Exercise 4.1: Q.3,8,9,19, Example 1: (pg.143), Exercise 4.2: Q.1,5,10,19,
Exercise 4.3: Q.2,5,11, Three Cube Roots of Unity(pg.151), Properties of Cube Roots of
Unity(ii)(pg.152), Four Fourth Roots of Unity (pg.154), Exercise 4.4: Q.2(iii), Q.3(i),
Q.5, Example 2: (pg.157), Example 4: (pg.158), Exercise 4.5: Q.1,7,11,
Exercise 4.6: Q.1(vi), Q.3(iv), Q.6, Q.7(v), Example 1: (ii)(pg.165),

Exercise 4.7: Q.1(iv), Q.2(i), Exercise 4.8: Q.1,6,9, Exercise 4.9: Q.2,8, Exercise 4.10: Q.2,5
Homework: Exercise 4.1: Q.2,5,6,10,12,15,17,18, Exercise 4.2: Q.4,11,14,17,18,22,24,
Exercise 4.3: Q.4,6,10, Exercise 4.4: Q.2(i,v), Q.4,6,7, Q.8(i,iii),
Exercise 4.5: Q.10,12,14,15,16, Exercise 4.6: Q.1(i,ii), Q.2, Q.3(i), Q.7(i,vi), Q.8,
Exercise 4.7: Q.1(ii,iii), Q.3(i), Q.5,7, Exercise 4.8: Q.4,7,10, Exercise 4.9: Q.3,5,10,
Exercise 4.10: Q.4,6

CHAPTER 5: PARTIAL FRACTIONS
Classwork: Example 1: (pg.180), Exercise 5.1: Q.5, Example 1: (pg.184),
Example 2: (pg.184), Exercise 5.2: Q.4,9, Example 1: (pg.186), Exercise 5.3: Q.1,10,
Example 1: (pg.188)
Homework: Exercise 5.1: Q. 4,7,10, Exercise 5.2: Q.6,11, Exercise 5.3: Q.3,6,8

CHAPTER 6: SEQUENCES AND SERIES
Classwork: Example 2: (pg.190), Exercise 6.1: Q.1(iii,viii), Q.2(v), Example 3: (pg.193),
Example 4: (pg.194), Exercise 6.2: Q.2,6,13, Example 1: (pg.195), Exercise 6.3: Q.1(ii),
Q.6, Exercise 6.4: Q.2(ii), Q.6, Exercise 6.6: Q.2, Q.7(ii), Q.8,12, Exercise 6.7: Q.1(ii),
Q.2(i), Example 3-6: (pg.213 & 214), Exercise 6.8: Q.1, Q.5(iii), Q.6(ii), Q.13,
Example 1: (pg.219), Relations Between Arithmetic, Geometric and Harmonic
Means(pg.222), Exercise 6.10: Q.1(ii), Q.6,9,16
Homework: Exercise 6.1: Q.1(ii,v,vi,vii), Q.2(i), Q.3(ii,iv), Exercise 6.2: Q.4,7,8,9,12,
Exercise 6.3: Q.3,4,7, Exercise 6.4: Q.2(iii,v), Q.3(i), Q.4(ii), Q.11,14,15,16,
Exercise 6.6: Q.1,3,9,14, Exercise 6.7: Q.1(i), Q.2(ii), Q.3(i), Q.4,6, Exercise 6.8: Q.4,
Q.5(ii), Q.6(i,iv,) Q.8,9 Q.12(i), Q.14, Exercise 6.10: Q.1(i), Q.2(ii), Q.7,8,12,13, Q.14(i),
Q.15(i), Q.17

CHAPTER 7: PERMUTATION, COMBINATION AND PROBABILITY
Classwork: Example 2 & 3: (pg.230), Exercise 7.1: Q.1(vii,x), Q.2(vi,ix),
Exercise 7.2: Q.1(v), Q.2(ii), Q.7, Example 3: (pg.238), Exercise 7.3: Q.1(ii), Q.4,12,
Complemmentary Combination (pg.240), Example 1-3: (pg.241), Exercise 7.4: Q.1(ii),
Q.2(i), Q.9(i), Example 1 & 2: (pg.244 & 245), Exercise 7.5: Q.3(ii), Q.5(i), Q.10(i),
Exercise 7.7: Q.3,6, Exercise 7.8: Q.3,8
Homework: Exercise 7.1: Q.1(vi,ix), Q.2(v,viii,x), Exercise 7.2: Q.1(i,iii), Q.2(i,iii),
Q.3,4,6,10,11, Exercise 7.3: Q.1(iii), Q.3,11, Exercise 7.4: Q.1(i,iii), Q.2(ii,iii), Q.3(i),
Q.4,10, Exercise 7.5: Q.3(i), Q.5(ii), Q.10(ii), Exercise 7.7: Q.2,5, Exercise 7.8: Q.4,9

CHAPTER 8: MATHEMATICAL INDUCTION AND BINOMIAL THEOREM
Classwork: Example 6: (pg.262), Exercise 8.1: Q.2,4,13,20, Example 2: (pg.269),
Example 5: (pg.272), Exercise 8.2: Q.1(i), Q.2(ii), Q.7(i), Example 2: (pg.276),
Example 4: (pg.278), Exercise 8.3: Q.1(ii,vi,viii), Q.2(vi.ix), Q.4(iv,vi), Q.9
Homework: Exercise 8.1: Q.1,3,5,7,14,24, Exercise 8.2: Q.1(ii,vi), Q.2(i,iii), Q.6(i),
Q.9(i), Q.10(i,ii), Exercise 8.3: Q.1(i,iii,iv,v), Q.2(i,iii), Q.3(i,ii), Q.4(i,ii), Q.5,7,11,12,13

CHAPTER 9: FUNDAMENTALS OF TRIGONOMETRY
Classwork: Example 4 & 5: (pg.290), Exercise 9.1: Q.1(vi,xvi), Q.2(viii), Q.5(i), Q.13,

Fundamentals Identities (pg.297), Exercise 9.2: Q.3(iv,v), Q.4(ii), Q.8,
Exercise 9.3: Q.1(ii,iii), Q.2(ii), Q.3(iii), Example 1-4: (pg.3,10&11),
Exercise 9.4: Q.2,4,8,11,14,21
Homework: Exercise 9.1: Q.1(ix,xii,xiii), Q.2(ii,vi,x,xii,xv), Q.3, Q.4(i), Q.5(ii), Q.6(i),
Q.7,11,15, Exercise 9.2: Q.3(i,vi), Q.4(i,v), Q.5,6, Exercise 9.3: Q.1(i,iv), Q.2(i),
Q.3(i,ii), Q.4, Q.5(iv,vii), Q.6(v,ix), Exercise 9.4: Q.5,6,7,9,10,12, 13,15,20

CHAPTER 10: TRIGONOMETRIC IDENTITIES
Classwork: Example 2: (pg.320), Exercise 10.1: Q.1(ii), Q.2(v), Q.3(iii), Q.4(i),
Exercise 10.2: Q.1(iii,vi), Q.3(ii), Q.7(ii), Q.11, Example 1: (pg.330),
Exercise 10.3: Q.1(ii), Q.3,13, Example 2: (pg.334), Example 3 & 5: (pg.335),
Exercise 10.4: Q.1(ii,viii), Q.2(ii), Q.3(iii)
Homework: Exercise 10.1: Q.1(v,vi), Q.2(iii,ix), Q.3(i,ii,iv), Q.5(i,iii,iv),
Exercise 10.2: Q.1(i,vii), Q.2(iv,v), Q.4(i,iii,v), Q.5, Q.7(i), Q.10(i),
Exercise 10.3: Q.1(i), Q.2,6,8,9,11, Exercise 10.4: Q.1(i,iii,iv,v), Q.2(v,vi), Q.3(ii), Q.4

CHAPTER 11: FUNDAMENTALS OF TRIGONOMETRY
Classwork: Exercise 11.1: Q.2,7,9
Homework: Exercise 11.1: Q.3,5,7,10,15

CHAPTER 12: APPLICATION OF TRIGONOMETRY
Classwork: Exercise 12.1: Q.1(i,ix), Q.2(ii), Exercise 12.2: Q.2,5, Exercise 12.3: Q.1,5,
Exercise 12.4: Q.1, Exercise 12.5: Q.1,5,8, Exercise 12.6: Q.1,8, Exercise 12.7: Q.1(ii),
Q.2(ii), Q.3(iii), Q.5, Proof (pg.379), Example 1: (pg.381), Example 3: (pg.383),
Exercise 12.8: Q.1(ii), Q.3(ii), Q.5(ii), Q.6(ii), Q.7(ii), Q.11
Homework: Exercise 12.1: Q.1(iii,v), Q.2(i,vi), Exercise 12.2: Q.3,4,
Exercise 12.3: Q.3,6,9, Exercise 12.4: Q.3,5, Exercise 12.5: Q.3,4,7,10,
Exercise 12.6: Q.2,6,7,10, Exercise 12.7: Q.1(i), Q.2(i), Q.3(i), Q.4,
Exercise 12.8: Q.1(i), Q.3(iii), Q.5(iv), Q.6(i), Q.7(i), Q.12

CHAPTER 13: INVERSE TRIGONOMETRIC FUNCTIONS
Classwork: Example 2: (pg.390), Example 4: (pg.396), Exercise 13.1: Q.1(iii,ix), Q.2(ii),
Q.3(i,v,ix), Exercise 13.2: Q.3,11,14,19
Homework: Exercise 13.1: Q.1(iv,v,vi), Q.2(i,iii), Q.3(iii,iv,vii),
Exercise 13.2: Q.1,2,6,12,17,18

CHAPTER 14: SOLUTIONS OF TRIGONOMETRIC EQUATIONS
Classwork: Example 1-3: (pg.401&402), Example 1,2,4,5: (pg.403,405 & 406), Q.14,
Q.1(i,iii), Q.2(ii,iv), Q.4,6
Homework: Exercise 14: Q.1(ii,iv), Q.2(i,iii), Q.3,5

Chapter No./ Name / Topics / Exercise Q(s)/ Textbook Pages (s)

CHAPTER 1: INTRODUCTION

Biology and some major fields of specialization, Biological method, Biology and the service of mankind (excluding the subtopics "Disease Control", "Preventive measures", "Vaccination and Immunization", and "Drug Treatment/ Gene therapy") (Pg. 1-13)
Practicals: No practical
Questions:
Classwork: Fill in the blanks(i-iii, ix),True and false(No), Multiple choice questions (i,iv)
Homework: Short questions (i-iv), Extensive questions (i, iv, v)

CHAPTER 2: BIOLOGICAL MOLECULES

Introduction to biochemistry, Importance of water, Carbohydrates (excluding the subtopics "monosaccharides", "oligosaccharides", "polysaccharides"), Lipids (excluding the subtopics "acylglycerols", "waxes", "phospholipids", "terpenoids"), Proteins, Structure of proteins, Nucleic acids (excluding the subtopics "DNA" and "RNA") (Pg. 17-31)
Practicals
1. Identification of biochemical from biological materials.
2. Iodine test for starch
3. Benedict's test for reducing sugars
4. Millon's test for Proteins/Biuret test for proteins
5. Sudan III test for fats and oils and emulsion test
Questions:
Classwork: Fill in the blanks (i, ii), True and false (i), Multiple choice questions (iv)
Homework: Short questions (ii, iv and v), Extensive questions (i, iii)

CHAPTER 3: ENZYMES

Introduction, Characteristics of enzymes, Mechanism of enzyme action (catalysis), Inhibitors
Irreversible inhibitors, Reversible inhibitors (competitive & non-competitive inhibitors) (Pg. 37-43)
Practicals:
1. Study of starch break down in germinating gram seeds.
Questions:
Classwork: Fill in the blanks (i-v), True and false (i-v), Multiple choice questions (No)
Homework: Short questions (i, iii-v), Extensive questions;(1, 3, 4)

CHAPTER 4: THE CELL

Structure of a generalized cell, Plasma membrane, Cell wall, Cytoplasm, Endoplasmic

reticulum, Ribosomes, Golgi apparatus, Lysosomes, Vacuoles, Cytoskeleton, Centriole, Mitochondria, Plastids (Chloroplasts, Chromoplasts, Leucoplasts), Nucleus (complete topic) Prokaryotic and eukaryotic cell (Pg. 48-64)

Practicals:

1. Study of animal cells (frog's epithelium cell, frog's buccal cavity cells) and plant cells (mesophyll cells, leaf epidermis cells, onion epidermis cells) by staining with safranin, acid fuchsin, methylene blue, eosine

Questions:

Classwork: Fill in the blanks (i-v), True and false (i-v), Multiple choice questions (i-vi)

Homework: Short questions (i-xi), Extensive questions (i, v)

CHAPTER 5: VARIETY OF LIFE

Introduction, Nomenclature, Two to five kingdom classification systems, Viruses (excluding the introductory paragraphs), Characteristics, Structure, Life cycle of bacteriophages, Some viral diseases: small pox, herpes, influenza, mumps and measles, polio, AIDS, Hepatitis (Pg. 67-80)

Practicals: No practical

Questions:

Classwork: Fill in the blanks (i-x), Multiple choice questions (i-xiv)

Homework: No Short question, No extensive question

CHAPTER 6: KINGDOM PROKARYOTAE (MONERA)

Structure of bacteria, Size, Shape of bacteria, Bacterial cell structure (complete topic – page 86 to 89), Nutrition of bacteria, Respiration in bacteria, Growth and Reproduction, Control of bacteria (Physical methods, Chemical methods), Use and misuse of antibiotics, Characteristics of Cyanobacteria (Pg.84-94)

Practicals:

1. Laboratory safety techniques and use of microscope and measurement of microscopic objects by micrometry.

2. Investigation of bacterial content of fresh and stale milk.

3. Study of Nostoc from fresh material and prepared slides.

Questions:

Classwork: Fill in the blanks (i-vi, vii), Multiple choice questions (i-vi)

Homework: Short questions (i a, b, ii-ix), Extensive questions (i-iii, v)

CHAPTER 7: THE KINGDOM PROTISTA (OR PROTOCTISTA)

Introduction, Major groups of Protista, Protozoa: Animal-like protists, Amoebae, Zooflagellates

Ciliates, Algae: Plant-like protists, Euglenoids, Brown algae, Red algae, Green algae, Importance of algae, Fungus-like protists, Slime molds, Water molds (Pg. 99-111)

Practicals:

1. Identification of Chlorella, Paramecium, Amoeba, Entamoeba, Plasmodium (malarial parasite) Euglena, Volvox, Ulothrix and Ulva from fresh materials or prepared slides.

Classwork: Fill in the blanks (i, ii, v-viii)
Homework: Short questions (i, iv, v), Extensive questions (i-ix)

CHAPTER 8: FUNGI

Introduction. The body of fungus, Nutrition in fungi, Reproduction, Asexual reproduction, Sexual reproduction, Classification of fungi, Zygomycota, Ascomycota, Basidiomycota, Deuteromycota, Importance of fungi, Ecological importance, Commercial importance, Economic gains due to fungi, Economic losses due to fungi (Pg. 113-128)

Practicals:
1. Study of yeast, Ustilago tritici and Pencillium from fresh materials and slides.

Questions:
Classwork: Multiple choice questions (i-viii)
Homework: Short Questions (i-x), Extensive questions (i-viii)

CHAPTER 9: KINGDOM PLANTAE

Classification of Plantae, Division Bryophyta, Adaptation to land habitat, Division Tracheophyta, Evolution of leaf, Evolution of seed habit, Class Gymnospermae (excluding the subtopic "Pinus – life cycle"), Class Angiospermae, Life cycle of an angiospermic plant, Seed formation, double fertilization, Classification of angiosperms (excluding the topic and subtopics of "Angiospermic families") (Pg. 131-153)

Practicals:
1. Examination of Marchantia and Funaria (external morphology) from fresh material and of sex organs from prepared slides.
2. Study of Pinus: male and female cones from fresh or preserved materials.

Questions:
Classwork: Fill in the blanks (i-ix), Multiple Choice Questions (i-iv)
Homework: Short Questions (ii b, iv, vii), Extensive questions (ii-vi)

CHAPTER 10: KINGDOM ANIMALIA

Introduction, Grade Radiata, Grade Bilateria, Diploblastic and triploblastic organization, Acoelomates, pseudocoelomates, coelomates , Series proterostomia & Series dueterostomia, Phylum Porifera, Phylum Coelenterata (excluding the subtopic "Polymorphism"), Phylum Platyhelminthes (excluding the subtopics "infestation" and "disinfestation"), Adaptation for parasitic mode of life, Aschelminthes (Phylum Nematoda), Phylum Annelida (excluding the subtopics of classes "Polychaeta", "Oligochaeta", and "Hirudinea"), Phylum Arthropoda (excluding the subtopics of classes "Crustacea", "Insecta", "Arachnida", and "Myriapoda"), Metamorphosis, Economic importance of arthropods, Phylum Mollusca (excluding the subtopics of classes "Gastropoda", "Bivalvia" and "Cephalopoda"), Economic importance of Mollusca, Phylum Echinodermata; Echinodermata / Affinities, Phylum Chordata, Sub-phylum Vertebrata , Class Chondrichthyes, Class Osteichthyes (excluding the subtopic

"adaptations for aquatic life, Class Amphibia, Class Reptilia, Class Aves; Characters of Birds, Class Mammalia, Sub-class Prototheria, Sub-class Metatheria, Sub-class Eutheria (Pg. 167-203)

Practicals:

1. Exposure of respiratory system of frog.

Questions:

Classwork: Fill in the blanks (i-x), Multiple choice questions (i, ii, iv, v, vi, vii)

Homework: Extensive questions (i, ii, vii, viii)

CHAPTER 11: BIOENERGETICS

Introduction, Photosynthesis, Photosynthetic reactants and products, Water and photosynthesis, Photosynthetic pigments (Chlorophyll, Carotenoids), Reactions of photosynthesis, Light dependent reactions, Non-cyclic phosphorylation, Cyclic phosphorylation, Chemiosmosis, Light independent (or dark) reactions, Respiration, Anaerobic and aerobic respiration, Anaerobic Respiration (alcoholic fermentation, lactic acid fermentation), Cellular Respiration, Glycolysis, Pyruvic acid oxidation, Krebs cycle, Respiratory chain (Pg. 206-228)

Practicals:

1. Extraction and chromatography of leaf chloroplast pigments.

Questions:

Classwork: Fill in the blanks (i-v), Multiple choice questions (i-iii)

Homework: Extensive questions (i-iii, vii-x, xii-xiii)

CHAPTER 12: NUTRITION

Methods of plant nutrition (saprophytic nutrition, parasitic nutrition, symbiotic nutrition, nutrition in insectivorous plants), Digestion and absorption, Digestion in Man, Digestion in oral cavity, Digestion in stomach, Digestion in small intestine, Absorption of food, Large intestine, Some common diseases related to nutrition (Dyspepsia, Food poisoning, Obesity, Ulcer) (Pg. 235- 256)

Practicals:

1. Study of T.S of liver, stomach, small intestine and large intestine of man prepared slides.

Questions:

Classwork: Fill in the blanks (i-viii), True and false (i-iii), Multiple choice questions (i-iii, vi-vii, ix)

Homework: Short questions (i, iii, iv), Extensive questions (i-iv, ix-xii, xvi-xv)

CHAPTER 13: GASEOUS EXCHANGE

Advantages and disadvantages of gas exchange in air and water, Gaseous exchange in plants, Properties of respiratory surfaces, Respiration in man, Air passage ways, Inspiration, Expiration, Transport of respiratory gases, Transport of oxygen, Transport of carbon dioxide, Carbon dioxide concentration in arterial and venous blood, Respiratory disorders (Cancer, Tuberculosis, Asthma), Role of respiratory pigments, Lung capacities (Pg. 259-275)

Practicals: No practical

CHAPTER 14: TRANSPORT

Transport in plants - Uptake and transport of minerals and water, Mineral absorption by roots, Processes involved in absorption by roots, Uptake of water by roots, Apoplast pathway, Symplast pathway, Vacuolar pathway, Ascent of sap, Cohesion tension theory, Mechanism of transpiration pull in cohesion and tension theory, Root pressure, Imbibition, Bleeding, Opening and closing of stomata, Mechanism of phloem translocation/transport, Diffusion, Pressure flow theory, Circulatory system, Characteristics of circulatory system, Open and closed circulatory system, Comparison of open and closed circulatory system, Transport in man, The circulatory fluid - the blood, Functions of blood, Disorders (blood cancer, thalassaemia), Pumping organ - The heart, Structure and action, The cardiac cycle, Mechanism of heart Excitation and Contraction Electrocardiogram, Artificial pace-maker, Blue babies, Blood vessels, Arteries, Capillaries, Veins, Blood pressure and rate blood flow, Hypertension, Thrombus formation and hypertension, Heart attack, Stroke, Hemorrhage, Lymphatic system, Immunity, Types of immunity (Pg. 278-327)

Practicals:

1. Demonstration of osmosis in living plant cells, (manifested by plasmolysis and deplasmolysis) of onion cells or spirogyra.
2. Study from prepared slides of internal structure of monocot. and dicot. root, stem and leaf.
3. Investigation of stomatal distribution (using clear nail varnish or epidermis peel)
4. Study of prepared, stained slide of human blood including identification of phagocytes and lymphocytes and preparation of slide of blood smear of frog.
5. Study of structure of artery, vein, capillary from their T.S. (Prepared Slides).
6. Study of effect of acetylcholine and adrenaline on the heartbeat of frog.
7. Exposure of blood circulatory system of frog (heart and main blood vessels).
8. Measurement of blood pressure during rest and alter exercise with B.P apparatus.

UNIT 1: BASICS OF INFORMATION TECHNOLOGY

Overview (Pg.1,2), Hardware and Software (Pg. 2-4), System Software VS Application Software (Pg. 15-16), Basic Units of Data Storage (Pg. 16-17), Word (Pg. 17-18), System Development (Pg. 18-22)

Classwork: Q.1 (i, ii, iii, vii) (Pg.22), Q.4, 13 (Pg.24)

Homework: Q.5, 15 (Pg. 24)

UNIT 2: INFORMATION NETWORKS

Overview (Pg. 25), Workgroup Computing (Pg. 25-26), Internet (Pg.27-29), Components of network (Pg. 29-31), LAN vs WAN (Pg. 32-33), Network Standards (Pg. 35), Network Topologies (Pg. 35- 38), Open System Interconnection (OSI) Model (Pg. 37-38)

Classwork: Q.1 (i, iii- x), Q.2(i- viii) (Pg. 39), Q.3(ii-vi, viii-x) (Pg. 40), Q.4,5,8 (Pg.40)

Homework: Q.6, 11 (Pg. 40)

UNIT 3: DATA COMMUNICATIONS

Overview (Pg. 41), Components of Data Communication (Pg.42), Signals (Pg.42-43), Types of Data (Pg. 43), Types of Data Transmission (Pg. 46 -53)

Classwork: Q.1 (i- iv, vii, xi-x) (Pg. 56), Q.2(i, ii, v) (Pg. 55-56), Q.3(iii, v-vii) (Pg. 56), Q.4, 6, 9 (Pg. 56)

Homework: Q.7, 10 (Pg. 56)

UNIT 4: APPLICATIONS AND USES OF COMPUTER

Overview (Pg. 57), Uses of Computers in different Fields (Business, E-Commerce, Computer Added Design, Simulations only) (Pg. 57-67)

Class Work: Q.5, 6 (Pg. 70)

Home Work: Q.10 (Pg. 70)

UNIT 5: COMPUTER ARCHITECTURE

Overview (Pg.71-76), Bus Interconnection (Pg.76-78), The I/O Unit (Pg.78-81), Instruction Format (Pg. 82-84), Operating Systems (Pg. 85-86), The Translators and Their Functions (Pg. 87)

Classwork: Q.1, 2, 3(Pg. 88-89), Q.4, 5, 7, 10, 11 (Pg. 90)

Homework: Q.6, 8, 9, 14 (Pg. 90)

UNIT 6: SECURITY, COPYRIGHT AND LAW

Overview (Pg.91), Virus and Antivirus issues (Pg. 91-94), Data Security (Pg. 94-97)

Classwork: Q.1 (i- vi) (Pg. 100), Q.2 (Pg. 100-101), Q.3(i- iv, vi- viii) (Pg. 101-102), Q.4, 5, 6 (Pg.102)

Homework: Q.9, 10, 11 (Pg. 102)

UNIT 7: WINDOWS OPERATING SYSTEM

Overview (Pg.103), Types of Operating System (Pg. 103-105), Starting to use Windows Operating System (Objects of Windows Operating system, Features of Windows only)

(Pg. 105-107, 108- 109), Disk Management (Pg.109-110)

Classwork: Q.1(i-vi, viii, x) (Pg.113), Q.2(Pg.113), Q.3(i, ii, v, viii -x) (Pg.114), Q.4,6,8(Pg.114)

Homework: Q.5, 9, 10 (Pg. 114)

UNIT 8: WORD PROCESSING

Overview (Pg. 115), What is Word Processor? (Pg. 115- 116), A Simple Word Processor (Pg. 116), Full Featured Word Processor (Pg.116-118)

Classwork: Q.2(i, ii,) (Pg. 131), Q.5 (Pg. 132)

Homework: Q.6 (Pg. 132)

UNIT 9: SPREADSHEET SOFTWARE

Overview (Pg. 133), Features of Spreadsheet Software (Pg. 133), Basics of Worksheet (Pg.135- 137), Working with Formulas (Pg. 137-138), Functions (Pg.138-139), Introducing Charts (Pg. 142-143)

Classwork: Q.1 (i- vi, viii-x) (Pg. 144-145), Q.2(Pg. 145), Q.3(i- iv, vi-x) (Pg. 145), Q.4, 5 (Pg.146)

Homework: Q.8, 9 (Pg. 146)

UNIT 10: FUNDAMENTAL OF THE INTERNET

Overview (Pg.147), Addressing Schemes (Pg.148-149), Web Browsing (URL (Uniform Resource Locator) only) (Pg. 149,150), Email (Email Address only) (Pg. 152), Newsgroups (Pg. 152)

Class Work: Q.1 (iii, viii, ix) (Pg. 153),Q. 2 (Pg. 153), Q.3(i, iii, vi, vii, ix, x) (Pg. 154)

Home Work: Q.6 (Pg. 154)

LIST OF PRACTICALS GRADE XI:

MS-EXCEL

1. Inserting & Deleting Cells, Rows and Columns
2. Managing Worksheets
3. Use Formulas and Functions (formatting numbers, decimal places, column & rows setup etc).
4. Draw different types of charts
5. Use shortcuts

INTERNET EXPLORER

6. Send/ receive email to single user, multiple users.
7. Browsing Internet
8. Use of Shortcuts

Note:

Objective and subjective type papers should be given from the retained topics and exercise questions.

SECOND YEAR

PART-I

LESSON 1: THE DYING SUN
Classwork: Lesson, Notes (Pg. 1-3), Question: 1, 2, 3, 4, 5, 6, 7, 8 -- Pg. 3
Homework: Question: 8 -- Pg. 3
LESSON 3: WHY BOYS FAIL IN COLLEGE
Classwork: Lesson, Notes (Pg. 8-12), Question: 1, 2, 3, 4, 5, 6, 7 -- Pg. 12
Homework: Question: 3,4 -- Pg. 12
LESSON 5: ON DESTROYING BOOKS
Classwork: Lesson, Notes (Pg. 16-19), Question: 1, 2, 3, 4, 5, 6,7,8,9 -- Pg. 19
Homework: Question: 7, 8, 9 -- Pg. 19
LESSON 7: MY FINANCIAL CAREER
Classwork: Lesson, Notes (Pg. 24-26), Question: 1, 2, 3, 4,5, 6 -- Pg. 27
Homework: Question: 5, 6 -- Pg. 27
LESSON 9: HUNGER AND POPULATION EXPLOSION
Classwork: Lesson, Notes (Pg. 33-36), Question: 1, 2, 3, 4, 5, 6,7, 8, 9 -- Pg. 37
Homework: Question: 7, 8, 9 -- Pg. 37

PART-II

LESSON 11: FIRST YEAR AT HARROW
Classwork: Lesson, Notes (Pg. 45-47), Question: 1, 2, 3, 4, 5, 6,7, 8 -- Pg. 47
Homework: Question: 6, 7, 8 -- Pg. 47
LESSON 14: LOUIS PASTURE
Classwork: Lesson, Notes (Pg. 66-74), Question: 1,2, 3, 4, 5, 6, 7, 8, 9 -- Pg. 74
Homework: Question: 1, 2, 9 -- Pg. 74
LESSON 15: MUSTAFA KAMAL
Classwork: Lesson, Notes (Pg. 75-82), Question: 1, 2, 3, 4, 5,6, 7, 8, ,9 -- Pg. 82
Homework: Question: 10, 11, 12, 13 -- Pg. 82

GOOD-BYE Mr. Chips

- This novel will be taught completely.
- Questions will be devised from all the eighteen chapters of the novel.

ENGLISH GRAMMAR AND COMPOSITION

ESSAYS
1. Life in a Big City
2. A Visit to a Historical Place
3. My Hobby
4. Pollution

5.   My Favourite Personality
6.   Why I Love Pakistan
7.   Corona Pandemic in Pakistan
8.   Technical Education
9.   My Aim in Life
10.   Computer: a Blessing or a Curse
11.   Advantages and Disadvantages of Cell Phone
12.   A Cricket Match
13.   Science and Society
14.   Women's Place in Our Society
15.   Education for Women
16.   Corruption
17.   Curbing Child Abuse
18.   Importance of Muslim Unity
19.   Rising Prices/Inflation
20.   Drug Addiction

GENERAL STATEMENT

Teachers will teach the following grammar items in the classroom and will assign the same as homework for the reinforcement:

•   Correction of common errors of parts of speech
•   Use of preposition
•   Use of idioms/phrases
•   Translation of unseen passage (Urdu to English)

NOTE

•   In objective type paper the question, 'choose the right option of the underlined words" should be given from the retained lessons of English Book-II / GOOD-BYE Mr. Chips only.
•   The students whose medium of instruction is English will write a paragraph on an unseen topic.

اردو جماعت ۔12

درسی کتاب کے اسباق

(الف) حصہ نثر

۱۔ مناقبِ عمر بن عبدالعزیزؒ   کلاس ورک: سوال نمبر ۱ (جز الف، ب)، ۲، ۴ (جز الف، ب)

هوم ورک: سوال نمبر ۱ (جز ج، د)، ۳، ۴ (جز ج)

2۔ تشکیلِ پاکستان	کلاس ورک:	سوال نمبر ۱ (جز الف، ب، ج، د، ہ)، ۲، ۷
	ہوم ورک:	سوال نمبر ۱ (جز و، ز، ح)، ۳، ۴، ۵، ۶
3۔ نواب محسن الملک	کلاس ورک:	سوال نمبر ۱ (جز الف، ب، ج)، ۲، ۳
	ہوم ورک:	سوال نمبر ۱ (جز د، ہ، و)، ۴، ۵، ۶
4۔ اکبری کی حماقتیں	کلاس ورک:	سوال نمبر ۱ (الف، ب، ج، د)، ۳، ۶، ۷، ۹
	ہوم ورک:	سوال نمبر ۱ (جز ہ، و)، ۲، ۴، ۵، ۸
5۔ دستک	کلاس ورک:	سوال نمبر ۱، ۳، ۴، ۶
	ہوم ورک:	سوال نمبر ۲، ۵، ۷
6۔ قُرطبہ کا قاضی	کلاس ورک:	سوال نمبر ۱ (جز الف، ب، ج، د)، ۲، ۶
	ہوم ورک:	سوال نمبر ۱ (جز ہ، و)، ۳، ۴، ۵
7۔ ہوائی	کلاس ورک:	سوال نمبر ۱، ۲، ۳، ۴، ۵
	ہوم ورک:	سوال نمبر ۶
8۔ پہلی فتح	کلاس ورک:	سوال نمبر ۱، ۲، ۴، ۵
	ہوم ورک:	سوال نمبر ۳
(ب) حصہ نظم		
1۔ حمد	کلاس ورک:	سوال نمبر ۱، ۲، ۳
	ہوم ورک:	سوال نمبر ۴، ۵
2۔ نعت	کلاس ورک:	سوال نمبر ۲، ۳، ۵، ۷
	ہوم ورک:	سوال نمبر ۱، ۴، ۶
3۔ اسلامی مساوات	کلاس ورک:	سوال نمبر ۱، ۲، ۴، ۵، ۷
	ہوم ورک:	سوال نمبر ۳، ۶، ۸
4۔ آدمی	کلاس ورک:	سوال نمبر ۱، ۲، ۶
	ہوم ورک:	سوال نمبر ۳، ۴، ۵
5۔ تغیّر	کلاس ورک:	سوال نمبر ۱ (جز الف، ب، ج، د)، ۳، ۴، ۷
	ہوم ورک:	سوال نمبر ۱ (جز ہ، و، ز)، ۲، ۵، ۶، ۸

(ج)   حصہ غزل

1ـ خواجہ میر درد   کام مَردوں کے ہیں، سو وہی کر جاتے ہیں

کلاس ورک: سوال نمبر ۱، ۲، ۳، ۶ (صرف پہلی غزل کے حوالے سے)، ۱۰ (جز الف)

ہوم ورک: سوال نمبر ۷ (جز الف، ب، ج)، ۹، ۸ (جز الف، ب، ج، د، ہ)

2ـ غلام ہمدانی مصحفی   دنیا میں جب تلک کہ میں اندوہ گیں رہا

کلاس ورک: سوال نمبر ۱ (پہلی غزل کے حوالے سے)، ۲، ۳ (پہلی چھے تراکیب)

ہوم ورک: سوال نمبر ۶ (پہلے چھے الفاظ)، ۷

3ـ مرزا غالب   بسکہ دشوار ہے ہر کام کا آساں ہونا

کلاس ورک: سوال نمبر ۱ (پہلی غزل کے حوالے سے)، ۲، ۳

ہوم ورک: سوال نمبر ۷، ۸ (جز الف)، ۹ (پہلی غزل کے حوالے سے)

4ـ علامہ اقبالؒ   جب عشق سکھاتا ہے آدابِ خود آگاہی

کلاس ورک: سوال نمبر ۱، ۳، ۴، ۵، ۶

ہوم ورک: سوال نمبر ۷، ۱۱ (پہلی چھے تراکیب)، ۱۲ (پہلے تین الفاظ)، ۱۳

5ـ علامہ اقبالؒ   نہ تخت و تاج میں، نے لشکر و سپاہ میں ہے

کلاس ورک: سوال نمبر ۸، ۹، ۱۰، ۱۱ (آخری چار تراکیب)

ہوم ورک: سوال نمبر ۲، ۱۲ (آخری چار الفاظ)

6ـ ناصر کاظمی   دل میں اک لہری سی اُٹھی ہے ابھی

کلاس ورک: سوال نمبر ۱ (جز الف، ب، د)، ۴

ہوم ورک: سوال نمبر ۱ (جز ہ، و)

7ـ تابش دہلوی   سکوں درکار ہے لیکن سکوں حاصل نہیں ہوتا

کلاس ورک: سوال نمبر ۱، ۳، ۴

ہوم ورک: سوال نمبر ۲، ۵

قواعد و انشا
(الف) مضمون نگاری

(i)   محسنِ انسانیت (خَاتَمُ النَّبِیِّیْنَ صَلَّی اللّٰہُ عَلَیْہِ وَعَلٰی آلِہ وَاَصْحَابِہِ وَسَلَّمَ)

(ii) اتحادِ عالمِ اسلام

(iii) کرونا وائرس اور ہماری ذمہ داریاں

(iv) تعلیمِ نسواں

(v) والدین کا احترام

(vi) شجرکاری کی ضرورت و اہمیت

(vii) ماحولیاتی آلودگی: اسباب اور تدارک

(viii) بچپن ایک سنہری دور

(ix) کشمیر ہماری شہ رگ

(x) میرا نصب العین

(xi) اردو زبان: ضرورت و اہمیت

(ب) خطوط نویسی

(i) دوست کے نام خط لکھ کر اس کی والدہ کی وفات پر اظہارِ تعزیت کیجیے۔

(ii) چھوٹے بھائی کے نام خط لکھیں جس میں پڑھائی کے ساتھ ساتھ ہم نصابی سرگرمیوں میں بھی حصہ لینے کی تلقین کی گئی ہو۔

(iii) اخبار کے مدیر کے نام خط لکھ کر ٹریفک حادثات کی روک تھام کے لیے تجاویز لکھیں۔

(iv) معاشرے میں بڑھتے ہوئے سٹریٹ کرائم کے خاتمے کے لیے ڈپٹی کمشنر کے نام خط لکھیں۔

(v) دوست کے نام خط لکھیں جس میں اسے بتائیں کہ جسمانی ورزش بیماریوں سے نجات کا ذریعہ ہے۔

(vi) تاریخی مقام کی سیر کے احوال پر مبنی، اپنے دوست کے نام خط لکھیں۔

(vii) اخبار کے مدیر کے نام خط لکھیں، جس میں مہنگائی اور اس کے مسائل پر اپنے خیالات کا اظہار کیجیے۔

(viii) اپنے دوست کے نام خط لکھیں جس میں اشیا میں ملاوٹ پر اپنے تاثرات کا اظہار کیجیے۔

(ix) اخبار کے مدیر کے نام خط لکھیں جس میں منشیات کے بڑھتے رجحان کی طرف توجہ دلائی گئی ہو۔

☆ اساتذہ کرام طلبہ کو درج ذیل کی تفہیم/مشق کروائیں اور اعادہ کے لیے ہوم ورک بھی دیں۔

(ج) مطابقت اور حروف کا درست استعمال

(د) رموزِ اوقاف

(ہ) امدادی افعال

باب 1: اسلامی جمہوریہ پاکستان کا قیام

نظریہ پاکستان، قائداعظمؒ اور نظریہ پاکستان، علامہ محمد اقبالؒ اور نظریہ پاکستان، نظریہ پاکستان کے اجزائے ترکیبی (عقائد وعبادات، جمہوری اقدار کا فروغ، معاشرتی انصاف اور مساوات، شہریوں کے حقوق وفرائض، اخوت و بھائی چارہ)۔ پاکستان ۔مسلمانان برصغیر کی جدوجہد کا نتیجہ، تحریک علی گڑھ، سرسید احمد خاں اور تحریکِ علی گڑھ، تعلیمی خدمات، ادبی خدمات، معاشرتی و معاشی خدمات، سیاسی خدمات۔آل انڈیا مسلم لیگ کا قیام، مسلم لیگ کے قیام کے اسباب، مسلم لیگ کے قیام کے مقاصد۔مطالبہ پاکستان کے محرکات، قرارداد پاکستان، قرارداد کا پس منظر، قائداعظمؒ کا خطبہ صدارت۔

کلاس ورک: کثیرالانتخابی سوالات: (x,v,iv,ii)   مختصر سوالات: (x,ix,v,iv,i)

ہوم ورک: تفصیلی سوالات: سوال 1، 2، 3، 4، 7۔

باب 2: اسلامی جمہوریہ پاکستان کی ابتدائی مشکلات

ابتدائی مشکلات (ریڈکلف ایوارڈ کی ناانصافیاں، انتظامی مشکلات، مہاجرین کی آمد، اثاثوں کی تقسیم، فوج کی تقسیم، دریائی پانی کا مسئلہ، ریاستوں کا تنازع)۔ قومی استحکام

کلاس ورک: کثیرالانتخابی سوالات: (viii,vii,vi,v,iv,iii,ii)   مختصر سوالات: (x,vi,v,iv,iii)

ہوم ورک: تفصیلی سوالات: سوال 1، 2

باب 3: اسلامی جمہوریہ پاکستان کا جغرافیہ

پاکستان کا محل وقوع، محل وقوع کی اہمیت (خلیج فارس سے ملحقہ مسلم ممالک، افغانستان، وسطی ایشیائی ممالک، چین اور بھارت)۔ پاکستان کی آب و ہوا، آب و ہوا کے لحاظ سے پاکستان کے علاقے، بارش کا موسم، آب و ہوا کے انسانی زندگی پر اثرات۔

کلاس ورک: کثیرالانتخابی سوالات: (ix,i)   مختصر سوالات: (viii,vi,v)

ہوم ورک: تفصیلی سوالات: سوال 1، 4، 5

باب 4: پاکستان کو اسلامی جمہوریہ بنانے کے اقدامات

قرارداد مقاصد، دستور پاکستان 1973ء، پاکستان میں نفاذ اسلام کے لیے اقدامات، 1973ء کے آئین میں شہریوں کے حقوق، 1973ء کے آئین میں شہریوں کے فرائض، انسانی حقوق، انسانی حقوق کی خصوصیات، خطبہ حجۃ الوداع اور انسانی حقوق، آخری خطبہ، خلاصہ

کلاس ورک: کثیرالانتخابی سوالات: (ix,vii,iii,ii,i)   مختصر سوالات: (xiii,vii,vi,v,i)

ہوم ورک: تفصیلی سوالات: 1,2,3,4

باب 5: پاکستان کا حکومتی ڈھانچہ اور اچھا نظام حکومت

وفاقی حکومت اور دیگر ادارے، مجلس شوریٰ (پارلیمنٹ) کے فرائض، وفاقی انتظامیہ، اہم عہدے دار (صدر پاکستان، وزیراعظم، وفاقی کابینہ، وفاقی وزیر، وزیر مملکت، سیکرٹری، ایڈیشنل سیکرٹری، جوائنٹ سیکرٹری، ڈپٹی سیکرٹری، سیکشن آفیسر)، سپریم کورٹ،

سپریم کورٹ کے اختیارات، صوبائی حکومت، صوبائی گورنر، وزیراعلیٰ، کابینہ، چیف سیکرٹری، سیکرٹری، ایڈیشنل سیکرٹری، ڈپٹی سیکرٹری، سیکشن آفیسر، صوبائی مقننہ، صوبائی مقننہ کے اختیارات، صوبائی عدلیہ، ہائی کورٹ کے اختیارات، اچھا نظام حکومت اور اسلام، حضرت عمر رضی اللہ تعالیٰ عنہ کا نظام حکومت، حضرت عمر رضی اللہ تعالیٰ عنہ کے دور کی انتظامیہ کی خصوصیات

کلاس ورک: کثیر الانتخابی سوالات:(vi,v,iv,iii,ii,i)   مختصر سوالات:(xiii,vii,vi,v,iv,iii,ii,i)

ہوم ورک: تفصیلی سوالات: 7,5,4,2,1

باب 6: اسلامی جمہوریہ پاکستان کی ثقافت

ثقافت (کلچر) کا مفہوم اور اہمیت، قدیم وادی سندھ کی تہذیب و ثقافت، پاکستانی ثقافت کی نمایاں خصوصیات (مخلوط ثقافت، مذہبی ہم آہنگی، لباس، معاشرتی قدریں، غذائیں، رسم و رواج، میلے اور عرس، کھیل، مختلف فنون، تہوار)۔

کلاس ورک: کثیر الانتخابی سوالات:(x,vii,vi,v)   مختصر سوالات:(xi,viii,vii,vi,v,iv,iii,ii,i)

ہوم ورک: تفصیلی سوالات: سوال 4,2,1

باب 7: اسلامی جمہوریہ پاکستان کی زبانیں

قومی رابطے کی زبان — اردو، پاکستان کی علاقائی زبانیں (پنجابی، سندھی، پشتو، بلوچی، کشمیری)

کلاس ورک: کثیر الانتخابی سوالات: مکمل   مختصر سوالات: مکمل

ہوم ورک: تفصیلی سوالات: مکمل

باب 8: قومی یکجہتی اور خوشحالی

تعارف، قومی یکجہتی اور سالمیت (تعریف، مشترکہ مذہب، مشترکہ جغرافیائی حدود، مشترکہ زبان، مشترکہ نسل، مشترکہ روایات، جمہوریت)۔ قومی یکجہتی و سالمیت کی اہمیت (خوشحالی، امن کا قیام، باہمی تعاون، عوام کی بھلائی، مضبوط انتظامیہ کا قیام، وقت اور دولت کے ضیاع سے محفوظ)

کلاس ورک: کثیر الانتخابی سوالات:(iv,ii,i)   مختصر سوالات:(xi,vii,v,iv,iii,ii,i)

ہوم ورک: تفصیلی سوالات: 4,1

باب 9: اسلامی جمہوریہ پاکستان میں معاشی منصوبہ بندی اور ترقی

معاشی منصوبہ بندی کی اہمیت، زرعی ترقی، صنعتی ترقی، تجارت اور کامرس، قدرتی وسائل، قدرتی ذرائع کا تحفظ، انفارمیشن ٹیکنالوجی۔

کلاس ورک: کثیر الانتخابی سوالات:(viii,vii,v,iii,i)   مختصر سوالات:(viii,vii,vi,v,iv,iii,ii)

ہوم ورک: تفصیلی سوالات: 7,5,3,2,1

باب 10: تحفظِ نسواں

اسلام میں خواتین کے حقوق، خواتین کے کام کرنے کا حق، پاکستان کی خواتین، خواتین کے خلاف تشدد کی روک تھام کے لیے حکومتِ پنجاب کے اقدامات، خواتین کو کام کرنے کی جگہ پر ہراساں کرنے کے خلاف حفاظت کا قانون 2010ء، پنجاب میں کم عمری کی شادی پر پابندی کا ایکٹ 2015ء، حکومت پنجاب تحفظِ نسواں ایکٹ 2016ء۔

باب 11: اسلامی جمہوریہ پاکستان کی خارجہ پالیسی

خارجہ پالیسی کی تعریف، پاکستان کی خارجہ پالیسی کے بنیادی اصول، پاکستان کی خارجہ پالیسی کے مقاصد، پاکستان کی خارجہ پالیسی کی تشکیل کے ذرائع، پاکستان اور عوامی جمہوریہ چین، پاکستان اور افغانستان، پاکستان اور ایران، پاکستان اور سعودی عرب۔

نوٹ: کلاس ورک اور ہوم ورک میں دیے گئے سوالات کا بنیادی مقصد طلبہ کو سوالوں کی نوعیت سے آگاہ کرنا ہے۔ اس سے ہرگز یہ مراد نہ لی جائے کہ پیپر میں یہی سوال آئیں گے کیونکہ پیپر بنانے والا کتاب/تسریع التعلم(ALP) میں موجود مواد میں سے پیپر یا سوالات بنا سکتا ہے۔

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PHYSICS-12

CHAPTER 12: ELECTROSTATICS

Electric Field Lines (Pg. 6,7), Electric Flux (Pg. 9,10), Electric Flux Through a Surface Enclosing a Charge (Pg. 10,11), Gauss's Law (Pg. 11,12), Applications of Gauss's Law (Pg. 12-14), Electric Potential (Pg. 14-18), Electron Volt (Pg. 18,19), Eclectic and Gravitational Forces (A Comparison) (Pg. 19), Charge on an Electron by Millikan's Method (Pg. 20,21), Capacitor (Pg. 22), Capacitance of a Parallel Plate Capacitor (Pg. 22-24), Energy Stored in a Capacitor (Pg. 25,26), Charging and Discharging a Capacitor(Pg. 26) Examples: 12.3, 12.4, 12.5, 12.6 (Pg. 18,19, 21, 27)
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Classwork: Questions: 13.1, 13.4, 13.6, 13.7, 13.9 (Pg.53,54), Problems: 13.6, 13.7, 13.8 (Pg.54,55)
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Classwork: Questions: 14.1, 14.2, 14.3, 14.4, 14.5, 14.7, 14.9, 14.11 (Pg. 79), Problems: 14.1, 14.3, 14.4, 14.5, 14.6 (Pg. 80)

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Alternating Current (Pg. 111-116), A.C. Circuits (Pg. 116), A.C. Through a Resistor (Pg. 116,117), A.C. Through a Capacitor (Pg.117-119), A.C. Through an Inductor (Pg.119,120), Impedance (Pg.120,121), R-C and R-L Series Circuits (Pg. 121,122), Power in A.C. Circuits (Pg.122,123), Series Resonance Circuit (Pg.124,125), Parallel Resonance Circuit (Pg.125,126), Three Phase A.C. Supply (Pg.126,127), Electromagnetic Waves (Pg.128,129), Examples: 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.7 (Pg. 114, 118, 121, 123, 124, 126)

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Mechanical Properties of Solids (Pg.137-142), Electrical Properties of Solids (Pg. 142-146), Superconductors (Pg. 146, 147), Magnetic Properties of Solids (147-151), Example: 17.1 (Pg. 140, 141)

Classwork: Questions: 17.4, 17.5, 17.6, 17.8, 17.11 (Pg. 152), Problems: 17.2, 17.3, 17.4, 17.5 (Pg. 153)

Homework: Questions: 17.2, 17.3, 17.7, 17.9, 17.10 (Pg. 152), Problem: 17.1 (Pg. 153)

CHAPTER 18: ELECTRONICS

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Homework: Questions: 18.1, 18.2, 18.4, 18.8 (Pg.172), Problem: 18.5 (Pg. 174)

CHAPTER 19: DAWN OF MODERN PHYSICS

Black Body Radiation (Pg. 181-185), Interaction of Electromagnetic Radiations with Matter (Pg. 185-191), Annihilation of Matter (Pg. 191,192), Wave Nature of Particles (Pg. 192-196), Uncertainty Principle (Pg. 196-198), Examples: 19.4, 19.5, 19.6, 19.7, 19.8, 19.9, 19.10, 19.11 (Pg. 185, 188, 189, 190, 195, 198)

Classwork: Questions: 19.5, 19.6, 19.8, 19.9, 19.10, 19.11, 19.12, 19.13, 19.15, 19.18, 19.20, 19.22, 19.24 (Pg. 199,200), Problems: 19.5, 19.6, 19.8, 19.10 (Pg. 201)

Homework: Questions: 19.7, 19.14, 19.19, 19.23, 19.25, 19.26 (Pg. 200), Problem: 19.3, 19.4, 19.7, 19.9 (Pg. 201)

CHAPTER 20: ATOMIC SPECTRA

Bohr's Model of the Hydrogen Atom (Pg. 204-208), Inner Shell Transitions and Characteristic X-Rays (Pg. 208-212), Uncertainty with the Atom (Pg. 212, 213), Laser (Pg. 213-216), Example: 20.1(Pg. 208)

Classwork: Questions: 20.1, 20.3, 20.8, 20.10, (Pg. 217), Problems: 20.3, 20.7, 20.8, 20.10 (Pg. 217,218)

Homework: Questions: 20.5, 20.7, 20.9 (Pg. 217), Problems: 20.2, 20.9 (Pg. 218)

CHAPTER 21: NUCLEAR PHYSICS

Mass Defect and Binding Energy (Pg. 223-226), Radioactivity (Pg. 226-229), Half Life (Pg. 229-231), Interaction of Radiation with Matter (Pg. 232-234), Radiation Detectors (Pg. 234-238), Nuclear Reactors (Pg. 238-240), Nuclear Fission (Pg. 240-243), Fusion Reaction (Pg. 246-249), Radiation Exposure (Pg. 249,250), Basic Forces of Nature (Pg. 254, 255), Building Blocks of Matter (Pg. 255, 256), Examples: 21.1, 21.2 (Pg. 224, 231, 232)

Classwork: Questions: 21.3, 21.5, 21.6, 21.7, 21.9, 21.10, 21.11, 21.15, 21.17 (Pg. 258), Problems: 21.1, 21.3, 21.4, 21.6, 21.7, 21.8 (Pg. 259)

Homework: Questions: 21.2, 21.4, 21.8, 21.12, 21.13, 21.14, 21.16 (pg. 258), Problems: 21.2, 21.5 (Pg. 259)

EXPERIMENTS

1. Find the resistance of wire by slide wire bridge.
2. Find the resistance of a voltmeter by drawing a graph between R and I/V.
3. Convert a galvanometer into a voltmeter of range 0-3 volts.
4. Determine the emf of a cell using a potentiometer.
5. Study the relation between current passing through a tungsten filament lamp and potential applied across it.
6. Study the variation in the magnetic field strength along the axis of a current carrying circular coil.
7. Study the relation between current and capacitance of capacitors in an A.C circuit.
8. Find the variation of photoelectric current with the intensity of light.
9. Measure D.C and A.C voltage by cathode ray oscilloscope.
10. Make a fire alarm from NOT gate
11. Find the high resistance by Neon Flash Tube.
12. Determination of e/m of an electron by 'Magnetron' method.

CHAPTER 1: PERIODIC CLASSIFICATION OF ELEMENTS AND PERIODICITY

TOPIC: (1.2, 1.3, 1.5).

The modern Periodic Table, Periodic Trends in Physical Properties (Pg. 2-11). The Position of Hydrogen (Pg. 14- 15).

Classwork: Q.1(i, ii, iii, v, vi, vii, viii, ix, x), Q.2 (i to viii), Q.3 (i, to ix), Q.14(a, b, c, d, e, f).

Homework: Q.5, Q.6, Q.7, Q.8, Q.9, Q.10, Q.11, Q.13.

CHAPTER 2: S-BLOCK ELEMENTS

TOPIC: (2.1, 2.3, 2.4).

Introduction (Pg. 20-24), Commercial Preparation of Sodium by Down's Cell, Commercial Preparation of Sodium Hydroxide by the Diaphragm Cell (Pg. 29-32).

Classwork: Q.1, Q.2, Q.3, Q.10.

Homework: Q.4, Q.5, Q.6, Q.7, Q.8, Q.9.

CHAPTER 3: GROUP IIIA AND GROUP IVA ELEMENTS

TOPIC: (3.1, 3.2, 3.3, 3.4).

Group IIIA Elements, Compounds of Boron, Reactions of Aluminium, Group IVA Elements (Pg. 37-46).

Classwork: Q.1 (i to ix), Q.2(i, ii, iii, iv, v, vi, vii, ix, x), Q.3, Q.4, Q.5, Q.6, Q.7, Q.8, Q.12.

Homework: Q.14, Q.15, Q.16, Q.17, Q.18, Q.19.

CHAPTER 4: GROUP VA GROUP VIA ELEMENTS

TOPIC: (4.1, 4.2, 4.3 (4.3.1, 4.3.2), 4.4, 4.5)

Introduction, Nitrogen and its compounds, Phosphorus and its Compounds (Occurrence, Allotropes of Phosphorus) (Pg. 56-64), Group VIA Elements, Sulphuric Acid (Pg. 68-75).

Classwork: Q.1, Q.2 (i to viii, x), Q.3, Q.4, Q.10, Q.11.

Homework: Q.5, Q.6, Q.7, Q.8, Q.13.

CHAPTER 5: HALOGENS AND THE NOBLE GASES

TOPIC: 5.1, 5.2, 5.4, 5.5).

Introduction, Occurrence (Pg. 79-81). Oxidizing Properties, Compounds of Halogens (Pg. 81-89).

Classwork: Q.1 (i, ii, iii, v, viii), Q.3, Q.5, Q.8, Q.9.

Homework: Q.4, Q.6, Q.7.

CHAPTER 6: TRANSITION ELEMENTS

TOPIC: (6.2, 6.5).

Properties of Transition Elements (Pg. 100-103). Corrosion (109-111

Classwork: Q.1 (iv, vi, vii), Q.2 (i to vii), Q.3 (i, ii, iii, iv, viii), Q.11.

Homework: Q.4 Q.8.

CHAPTER 7: FUNDAMENTAL PRINCIPLES OF ORGANIC CHEMISTRY

TOPIC: (7.1, 7.2, 7.5, 7.6, 7. 7, 7.8, 7.9, 7.10).

Introduction, Some Features of Organic Compounds (118-119). Cracking of Petroleum, Reforming, Classifications of Organic Compounds, Functional Group, Hybridization of Orbitals and the Shapes of Molecules, Isomerism (Pg. 122-133).

Classwork: Q.1, Q.2 (i, ii, iii, iv, v, vii, viii, ix) Q.3, Q.6, Q.7. Q.8, Q.14, Q.15.

Homework: Q.4,Q.5, Q.9, Q.10, Q.11, Q.13.

CHAPTER 8: ALIPHATIC HYDROCARBONS

TOPIC: ALL.

Included full Chapter with Exercise.

CHAPTER 9: AROMATIC HYDROCARBONS

TOPIC: ALL.

Included full Chapter with Exercise.

CHAPTER 10: ALKYL HALIDES

TOPIC: (10.1, 10.2, 10.3, 10.5).

Introduction, Nomenclature of Alkyl Halides, Methods of Preparation of Alkyl Halides (Pg. 194-197). Reactions of Alkyl Halides (Pg. 198-204).

Classwork: Q.1, Q.2 (i, iv, vii, viii, ix), Q.3 (i, v, vi, vii, viii, ix, x), Q.6, Q.7, Q.12.

Homework: Q.4, Q.8, Q.9, Q.10.

CHAPTER 11: ALCOHOLES, PHENOLS AND ETHERS

TOPIC: (11.1, 11.2, 11.3, 11.4 11.5).

Introduction, Alcohols, Distinction between Primary, Secondary and Tertiary Alcohols, Uses of Alcohols, Phenol (Pg. 211-222).

Classwork: Q.1, Q.2 (i, ii, iii, iv, v, vi, vii, viii, x), Q.3 (i, ii, iii, iv, v, vi, vii, ix), Q.4, Q.7, Q.10, Q.11, Q.12, Q.18.

Homework: Q.5, Q.6, Q.9, Q.13 (i, ii, iii), Q.14, Q.15, Q.16, Q.17.

CHAPTER 12: ALDEHYDES AND KETONES

TOPIC: ALL.

Included full Chapter with Exercise.

CHAPTER 13: CARBOXYLIC ACIDS

TOPIC: (13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7).

Introduction, Nomenclature of Carboxylic Acids, General Methods of Preparation, Physical Characteristics, Reactivity of Carboxylic Group, Acetic Acid (Pg. 250-259).

Classwork: Q.1 ((i, ii, iii, iv, v, vi), Q.2 ((i, ii, iii, iv, v, ix), Q.3 (i, ii, iii, iv, v, vi, vii, viii, ix), Q.4, Q.5, Q.9, Q.16.

Homework: Q.6, Q.7, Q.10.

CHAPTER 14: MACROMOLECULES

TOPIC: NIL

Excluded full chapter.

CHAPTER 15: COMMON CHEMICAL INDUSTRIES IN PAKISTAN

TOPIC: (15, 3, 15.4, 15.5).

Elements Essential for Plants Growth, Classification of Fertilizers, Cement (Pg.

292-299).

Classwork: Q.1(i, ii, iii, iv, v, vi, viii, ix), Q.2(i, ii, iii, iv, viii, x), Q.3(i, iii, iv, v, vi, viii, ix, x).

Homework: Q.4, Q.5, Q.6, Q.7.

CHAPTER 16: ENVIRONMENTAL CHEMISTRY

TOPIC: NIL

Excluded full chapter.

LIST OF EXPERIMENTS (CHEMISTRY) PART- II

1   Qualitative analysis of simple acid and basic radicals.
2   Detection of elements C, H, N, S and halogens in organic compounds.
3   Detection of functional group.
4   Preparation of iodoform.
5   Preparation of copper ammine complex, Tetra mine cupric sulphate.

MATHEMATICS-12 (CALCULUS AND ANALYTIC GEOMETRY)

UNIT 1: FUNCTIONS AND LIMITS

Classwork: Example 3 & 4: (pg.2 & 3), Example 6: (pg.4), Example 3: (pg.10), Exercise 1.1: Q.1(b)(iii), Q.2(iv), Q.4(ii,v), Q.7(i), Q.9(v), Example 3: (pg.14), Exercise 1.2: Q.1(iii), Q.2(iv), Q.3(ii), Example 1: (ii)(pg.20), Example 2 & 4: (pg.22), Example 5: (pg.24), Example 7: (pg.26), Exercise 1.3: Q.1(v), Q.2(v), Q.3(viii), Q.4(iii), Example 4 & 5: (pg.30), Exercise 1.4: Q.2(i), Q.3,6

Homework: Exercise 1.1: Q.1(a)(iv), Q.2(i,ii), Q.3, Q.4(iv,viii), Q.5, Q.6, Q.7(ii), Q.9(vi), Q.1(ii,iv), Q.2(iii), Q.3(i), Exercise 1.2: Q.1(ii,iv), Q.2(iii), Q.3(i), Exercise 1.3: Q.1(iii), Q.2(i,iii,iv,viii,ix), Q.3(iii-v,vii,x-xii), Q.4(iv,vii-xi), Exercise 1.4: Q.2(ii), Q.4,5

UNIT 2: DIFFERENTIATION

Classwork: Example 2: (pg.46), Example 5: (pg.48), Exercise 2.1: Q.1(v), Q.2(ii), Example 3: (pg.55), Example 7 & 8: (pg.59 & 60), Exercise 2.3: Q.6,13, Example 3: (pg.63), Example 1 & 2: (pg.66), Example 2: (pg.68), Example 4: (pg.69), Exercise 2.4: Q.1(ii), Q.2(v), Q.3(ii), Q.5(iii), Example 2(ii) (pg.74), Derivatives of Inverse Trigonometric Functions (pg.75-77), Exercise 2.5: Q.1(vii), Q.2(iv), Q.5(ii), Q.7, Q.10(v), Q.12, Example 1: (pg.83), Example 3: (pg.84), Exercise2.6: Q.1(iv), Q.2(v,ix), Q.3(iv), Example 2: (pg.91), Example 4: (pg.92), Example 7: (pg.94), Exercise 2.7 Q.1(i), Q.2(i), Q.3(ii), Q.6, 8, Examples 1, 2 & 3: (pg.96&97), Exercise 2.8: Q.1(ii), Q.2, Example 2: (pg.112), Exercise 2.9: Q.1(ii), Q.2(iii), Q.4, Example 5: (pg.116), Exercise 2.10: Q.2, 7, 12

Homework: Exercise 2.1: Q.1(ii,iii,viii,xii,xiv), Q.2(i), Exercise 2.3: Q.4,8,9,11,12,16,17, Exercise 2.4: Q.1(iv), Q.2(i-iii), Q.4, Q.5(i,v), Exercise 2.5: Q.1(iii,vi), Q.2(ii), Q.3(i), Q.5(i), Q.6,8,9 Q.10(ii,iv,vi), Q.11, Exercise 2.6: Q.1(i,vii,viii), Q.2(iii,iv,vi,vii,viii,x,xi,xiii,xiv), Q.3(v), Exercise 2.7: Q.1(iii), Q.3(v), Q.4(i,iii), Q.7,9, Exercise 2.8: Q.1(iv,v), Q.2,

Exercise 2.9: Q.1(i,iii), Q.2(vi,viii,ix), Q.5, Exercise 2.10: Q.5,6,11

UNIT 3: INTEGRATION

Classwork: Example 1 & 2: (pg.121), Exercise 3.1: Q.1(ii), Q.2(i), Q.3(iii), Example 12: (ii,v,vi,vii) (pg.128-130), Exercise 3.2: Q.1(ii&x), Q.2(iii,xiv), Example 2,4,5,7,8,10 (pg.132-134), Exercise 3.3: Q.2,7,11,16, Example 6: (pg.140), Exercise 3.4: Q.1(ii,vii), Q.2(v), Q.4(vi), Q.5(ii,vi), Example 4: (pg.147), Example 8: (pg.149), Exercise 3.5: Q.2,11,20,25,31, Example 1: (pg.157), Example 2: (ii)(pg.158), Example 4: (pg.159), Example 7 & 8: (pg.161), Exercise 3.6: Q.2,9,29,27, Example 1 & 2: (pg.164 & 165), Exercise 3.7: Q.2,5, Example 4: (pg.171),Exercise 3.8: Q.1(ii), Q.3,13

Homework: Exercise 3.1: Q.1(i,iii), Q.2(ii), Q.3(i,ii), Q.4, Exercise 3.2: Q.1(iii,iv,vi,vii) Q.2(ii,iv,ix,xi,xii), Exercise 3.3: Q.3,4,5,6,8,12,13,15,21, Exercise 3.4: Q.1(iii,vi,ix,xiii, xiv,xv,xix,xxi), Q.2(ii,iv,vi), Q.3,Q.4(ii,v), Q.5(i,iii,iv,v), Exercise 3.5: Q.1,3,4,5,6,7,8,13, 22,23,30, Exercise 3.6: Q.1,3,4,6,7,8,10,11,15,16,18,19,26, Exercise 3.7: Q.1,3,7,8, Exercise 3.8: Q.1(iv,v), Q.2,4,5,7,8,9,17,18

UNIT 4: INTRODUCTION TO ANALYTIC GEOMETRY

Classwork: Example 3: (pg.183), Exercise 4.1: Q.1(viii), Q.2(a,b), Q.8, Example 1: (pg.187), Example 3: (pg.189), Exercise 4.2: Q.1(ii), Q.3(i), Example 6: (pg.198), Example 9: (iii)(pg.202), Example 11: (pg.203), Example 3: (pg.209), Example 4: (pg.312), Example 5: (pg.214), Exercise 4.3: Q.3(b), Q.6, Q.9(b), Q.10(d) Q.15, Q.21(b), Q.22(e), Q.27,30, Example 2: (pg.219), Exercise 4.4: Q.2(iii), Q.5, Q.15, Example 1: (pg.226), Example 3: (pg.228), Exercise 4.5: Q.2,8

Homework: Exercise 4.1: Q.1(vii,ix), Q.4(i), Q.9, Exercise 4.2: Q.1(iii,iv), Q.3(ii,iv), Q.4(i), Exercise 4.3: Q.3(a), Q.4, Q.10(a,e), Q.13, Q.21(c), Q.22(a,c), Q.23(a), Q.25,26,28, Exercise 4.4: Q.2(ii), Q.4, Q.11(b,c), Q.14, Exercise 4.5: Q.4,6,7

UNIT 5: LINEAR INEQUALITIES AND LINEAR PROGRAMMING

Classwork: Example 2: (pg.234), Exercise 5.1: Q.1(iii), Q.2(ii), Q.3(ii), Q.4(vi), Q.5(v), Example 3(a): (pg.241), Exercise 5.2: Q.1(iv), Q.2(v), Example 1: (pg246), Exercise 5.3: Q.2,6

Homework: Exercise 5.1: Q.1(i,iv), Q.2(iii), Q.3(iii,vi), Q.4(ii,v), Q.5(iv,vi), Exercise 5.2: Q.1(i,ii), Q.2(iv,vi), Exercise 5.3: Q.1,3,4

UNIT 6: CONIC SECTION

Classwork: Example 2: (pg.251), Example 6: (pg.254), Exercise 6.1: Q.1(b), Q.2(b), Q.3(b), Q.4(b), Q.7, Example 3: (pg.260), Example 6: (pg.262), Example 8: (pg.263), Exercise 6.2: Q.1(ii), Q.2(ii), Q.6, Q.9, Example 2: (pg.277), Example 4: (pg.279), Example 5: (pg.280), Exercise 6.4: Q.1(ii), Q.2(i,viii), Q.4, Q.6, Example 3: (pg.296), Exercise 6.6: Q.2(ii,viii), Q.3, Example 7: (pg.307), Example 9: (pg.308), Exercise 6.7: Q.1(ii), Q.2(ii), Q.3(ii), Q.5, Q.8(ii,v), Example 3 & 4: (pg.312), Exercise 6.8: Q.1(iii,v), Q.2(ii), Q.3(ii), Q.4(ii), Example 2: (pg.318), Example 5:(pg.323), Exercise 6.9: Q.1(iii,viii), Q.2(ii), Q.3(ii)

Homework: Exercise 6.1: Q.1(c), Q.2(d), Q.3(d), Q.4(d), Q.9, Exercise 6.2: Q.1(i), Q.4, Q.5, Q.7(ii), Q.8(iii), Exercise 6.4: Q.1(v,ix,x), Q.2(iii,ix,x), Q.5, Q.8, Exercise 6.6:

Q.2(iii,vii,x), Q.4,5, Exercise 6.7: Q.1(iii), Q.2(i), Q.3(iii), Q.6, Q.8(i,iii), Exercise 6.8: Q.1(ii,iv), Q.2(iii), Q.3(iv), Q.4(iii), Exercise 6.9, Q.1(iv,vi,vii), Q.2(i), Q.3(iii)

UNIT 7: VECTORS

Classwork: Example 2 & 3: (pg.331), Exercise 7.1: Q.1(i), Q.2(iii), Q.5, Q.6(iii), Q.9, Exercise 7.2: Q.2(iii), Q.4, Q.10(c), Q.11(iii), Example 8(i): (pg.348), Exercise 7.3: Q.5 Q.11, Q.12(iv), Exercise 7.4: Q.1(iv), Q.2(ii), Q.7, 9, Example 1: (pg.361), Example 4: (pg.362), Exercise 7.5: Q.1(ii), Q.4(i), Q.7, Q.13, Q.15

Homework: Exercise 7.1: Q.1(ii), Q.2(ii), Q.4, Q.6(i,ii), Q.11,12, Exercise 7.2: Q.1(iii), Q.2(ii), Q.3(ii), Q.5, Q.7, Q.10 (b), Q.11(i,ii), Exercise 7.3: Q.1(iv), Q.3(ii), Q.7,9, Q.12(iii), Exercise 7.4: Q.1(i), Q.2(i), Q.4(ii), Q.5(ii), Q.8, Exercise 7.5: Q.1(iii), Q.3 Q.4(ii), Q.5(ii), Q.6,10,12

BIOLOGY-12

CHAPTER 15: HOMEOSTASIS

Concepts in homeostasis, Osmoregulation, Osmoregulation in plants (hydrophytes, mesophytes, xerophytes), Osmoregulation in animals (osmoconformers, osmoregulators), Osmoregulation in different environments, Excretion in plants, Excretion in animals, Nature of excretory products in relation to habitats, Excretion in vertebrates, Excretion in human, Excretory organs: liver, Urinary system, Concentration of excretory products, Kidney as osmoregulatory organ, Kidney problems and cures (complete topic), Thermoregulation, Temperature classification of animals, Regulation of heat exchange between animals and environment, Thermoregulation in mammals (human), Thermostat function and feedback controls in human, Temperature in fever (Pyrexia) (Pg.1- 20)
Practicals:
1.   Investigation of adaptive features of hydrophytes, halophytes, xerophytes and mesophytes, from fresh material and prepared slides.
Questions:
Classwork: Fill in the blanks (i-iii, v-vii), Multiple choice questions (i-v, vii-ix)
Homework: Short questions (i-v), Extensive questions (i, iii-vii)

CHAPTER 16: SUPPORT AND MOVEMENT

Support in plants (Sclerenchyma cells, Collenchyma Cells), Support and movements in animals (Hydrostatic Skeleton, Exoskeleton, Endoskeleton), Human skeleton: Axial skeleton, Appendicular skeleton, Joints, Deformities of skeleton (complete topic), Repair of broken bones, Muscles, Smooth muscles, Cardiac muscles, Skeletal muscles, Skeletal muscle fibre, Ultrastructure of Myofilament, Sliding filament model, How the bridges are controlled, Controlling the actin - myosin interaction by Ca++ ions, Energy for muscle contraction, Arrangement of skeletal muscles for movement of skeleton, Movement of bones, Evolutionary changes in the arrangement of bones and related mode of locomotion

in major groups of vertebrates (Pg.23- 48)
Practicals:
1.   Study from prepared slides, of skeletal, smooth and cardiac muscles and preparation of slide of striated muscles of cockroach.
2.   Study of skeleton of frog.
3.   Study, from prepared slides, of plant supporting tissues such as sclerenchyma and collenchyma.
Questions:
Classwork: Fill in the blanks (i-ix), True and false (i-vi), Multiple choice questions (i-ix, xi-xii, xiv)
Homework: Short questions (iii, v, ix), Extensive questions (i-vii, ix-xiii)

CHAPTER 17: COORDINATION AND CONTROL
Introduction, Coordination in plants: Control through hormones, Plant hormones (complete topic), Nervous co-ordination, Receptors, Neurons, Effectors, Reflex Arc, Nerve impulse, Synapse, Human nervous system, Central nervous system; Brain, Spinal cord, Peripheral nervous system, Autonomic Nervous System, Nervous disorders (complete topic), Effect of drugs on coordination, Chemical coordination, Hormones, Endocrine glands of mammals (complete topic), Feedback mechanism, Innate behaviour, Orientation, Reflexes and instincts, Instincts and learning (Pg.53-82)
Practicals:
1.   Study of ductless and vascularized nature of endocrine glands (pancreas, thyroid, microscopic sections.
Questions:
Classwork: Fill in the blanks (i, ii, iv, v), True and false (i-vi) Multiple choice questions (ii-v)
Homework: Short questions; (ii-v, vii); Extensive questions (ii, iii, v, vi)

CHAPTER 18: REPRODUCTION
Introduction, Reproduction in plants, Parthenocarpy, Seed dormancy, Fruit set and fruit ripening, Reproduction in animals, Asexual reproduction, Identical twins, Sexual reproduction, Reproduction in man, Male reproductive system, Female reproductive system, Female reproductive cycle, Birth, Test tube babies, Sexually transmitted diseases, AIDS (Pg. 87-102)
Practicals: No practical
Questions:
Classwork: Fill in the blanks (i, ii, iv–vii), True and false (i-iv), Multiple choice questions (i, iii-v)
Homework: Short questions; (i-iv) Extensive questions (i-iv)

CHAPTER 19: GROWTH AND DEVELOPMENT
Introduction, Growth and development in plants, Apical meristems, Intercalary meristems, Lateral meristems, Types of growth, Growth correlation, Growth and

development in animals, Development of chick (complete topic), Role of cytoplasm in development, Role of nucleus in development, Regeneration, Abnormal development (Pg. 105-119)

Practicals:

1.   Study of structure of hen's egg.

2.   Study of development of chick embryo 48/ 72 hours after incubation.

Questions:

Classwork: Fill in the blanks (i-iv) True and false (i-v) Multiple choice questions (ii, iii)

Homework: Short questions (ii, iv, v), Extensive questions (ii, iii, v)

CHAPTER 20: CHROMOSOME AND DNA

Types of chromosomes, Composition of chromosome, DNA as a heredity material, Chemical nature of DNA, Double helical structure of DNA, DNA replication, Meselson and Stahl experiment, Replication process, One gene one polypeptide hypothesis, Cells use RNA to make protein, Transcription, Genetic code, Translation, Mutations (Pg. 122-147)

Practicals: No practical

Questions:

Classwork: Fill in the blanks (i-v), True and false (i-iv), Multiple choice questions (i-vi)

Homework: Short questions (i-iv) Extensive questions (i-iv)

CHAPTER 21: CELL CYCLE

Interphase, Mitosis (complete topic), Importance of mitosis, Cancer (uncontrolled cell division), Meiosis (complete topic), Importance of meiosis, Meiotic errors, Down's Syndrome, Klinefelter's Syndrome, Turner's Syndrome (Pg. 150-160)

Practicals:

1.   Preparation of root tip squashes to study stages of mitosis.

2.   Preparation of squashes of Rheodiscolor floral buds to study meiosis and observation stages of meiosis from prepared slides and study of Polytene chromosome.

Questions:

Classwork: Fill in the blanks (i-vi), Multiple choice questions (i-iii), True and false (i-xi, xiii, xiv)

Homework: Short questions (ii-viii), Extensive questions (i-iii, v-vi)

CHAPTER 22: VARIATION AND GENETICS

Genes, alleles and gene pool, Mendel's law of inheritance, Mendel's interpretations, Law of Segregation, Dihybrid and dihybrid cross, Dominance relations, Complete dominance, Incomplete dominance, Codominance, MN blood type or blood group system, Overdominance, Multiple alleles, ABO blood group system in Man, Rh blood group system; Erythroblastosis foetalis, Gene linkage, Crossing over, Sex Chromosomes, Sex linkage in human (complete topic), Diabetes and its genetic basis.(Pg. 163-197)

Practicals:

1.   Study of continuous variations in the height in man and discontinuous variations

in tongue rolling in man and recording the result as histograms.
Questions:
Classwork: Fill in the blanks (i-xv), True and false (ii-v, vii, ix, x), Multiple choice questions (ii-iii, vi-xii)
Homework: Short questions (i-xvii), Extensive questions (i-viii, xii, xiii, xvii-xix)

CHAPTER 23: BIOTECHNOLOGY

Cloning of a gene; Recombinant DNA technology, How to get a gene, Molecular Scissors: Restriction endonucleases, Molecular carrier: Vector, Recombinant DNA, Expression of the Recombinant DNA, The polymerase chain reaction, DNA analyzing, Gene sequencing, Biotechnology products: Transgenic bacteria, Transgenic animals, Transgenic plants, Gene therapy, Genetic engineering of plants (Pg. 202-218)
Practicals: No practical
Questions:
Classwork: Fill in the blanks (i-v), Multiple choice questions (i-vi)
Homework: Short questions (i, iii), Extensive questions (i, iii-v)

CHAPTER 24: EVOLUTION

Introduction, Evolution from prokaryotes to eukaryotes, Charles Darwin, Neo-Darwinism, Evidences of evolution, Population, gene pool, allele and genotype frequencies, Factors affecting gene frequency (Pg.222-232)
Practicals: No practical
Questions:
Classwork: Fill in the blanks (i-vii, ix, x, xiii-xv), Multiple choice questions (ii-iv, vii)
Homework: Short questions (i-vii), Extensive questions (iii-v)

CHAPTER 25: ECOSYSTEM

Ecosystem, Biosphere, Components of ecosystem, Food chain, Food web, Predation and its significance, Parasitism and its significance, Symbiosis, Mutualism, Commensalism, The Nitrogen cycle (Pg. 235-245)
Practicals:
1.   Investigation of food chain and food web of a pond ecosystem.
2.   Sampling of grassland community by Quadrat method.
Questions:
Classwork: Fill in the blanks (i), True and false (ii, v), Multiple choice questions (i-iii)
Homework: Short questions (i-ii), Extensive questions (i-iv)

CHAPTER 26: SOME MAJOR ECOSYSTEM

Freshwater lakes, Divisions of terrestrial ecosystem, Some major ecosystems in Pakistan, Temperate deciduous forests, Coniferous alpine and boreal forests, Grass land ecosystem, Desert ecosystem (Pg. 251-260)
Practicals: No practical
Questions:
Classwork: Fill in the blanks (No), Multiple choice questions (iii, iv)

Homework: Short questions (iii, v), Extensive questions (ii, iv)

CHAPTER 27: MAN AND HIS ENVIRONMENT

Renewable and non-renewable resources (excluding the subtopic "Renewable resources"), Degradation and depletion of resources, Deforestation and afforestation, Importance of forests, Ozone layer depletion, Greenhouse effect, Acid rain, Water pollution, Eutrophication (Pg. 264 -275)

Practicals: No practical

Questions:

Classwork: Fill in the blanks (i, ii, v), Multiple choice questions (No)

Homework: Short questions (i-iii, v-viii), Extensive questions (i, iii-v)

COMPUTER SCIENCE-12

UNIT 1: DATA BASICS

Overview (Pg.1, 2), Traditional File System (Pg. 2-4), Databases (Pg.4-8), Database Management System (Objectives of Database Management System, Features of a DBMS only) (Pg. 8, 10)

Classwork: Q.1 (i- x) (Pg. 11), Q.2 (Pg. 11), Q.3 (Pg. 12), Q.5, 6, 8, 9, 12 (Pg.12)

Homework: Q. 7, 11 (Pg. 12)

UNIT 2: BASIC CONCEPTS AND TERMINOLOGY OF DATABASES

Overview (Pg.13-15), Attributes, Rows and Tables (Pg.15, 16), Relation or Table (Pg.16-18), Keys (Pg. 19-20), The User (Pg. 20)

Classwork: Q. 1(Pg. 21), Q.2 (Pg. 21, 22), Q.3(ii- vii) (Pg. 22), Q.6, 8 (Pg.22)

Homework: Q. 4, 7 (Pg. 22)

UNIT 3: DATABASE DESIGN PROCESS

Overview (Pg. 23), Data Modeling (Pg. 23-26), Database Design (Pg.27-31), Implementation (Pg. 31)

Classwork: Q.1, 2, 3 (Pg. 32, 33), Q. 4, 5, 6, 10, 12 (Pg.33-34)

Homework: Q. 7, 8, 9, 11 (Pg. 34)

UNIT 4: DATA INTEGRITY AND NORMALIZATION

Overview (Pg. 35), Data Integrity (Pg. 35), Normalization (Pg. 35- 44)

Classwork: Q.1, 2, 3(Pg. 45- 46) Q.4, 6, 9, 11, 12, 15 (Pg. 46)

Homework: Q. 5, 7, 8, 10, 13, 14 (Pg. 12)

UNIT 5: INTRODUCTION TO MICROSOFT ACCESS

Overview (Pg.47-48), Creating New Database (Pg. 48), Create Database Using the Database Wizard (Pg.49), Opening Existing Database (Pg. 50), Existing Microsoft Access (Pg. 51), Database Objects (Pg. 54- 56)

Classwork: Q.1 (ii-viii) (Pg. 57), Q.2(i, ii, iii, vi) (Pg. 57), Q.4, 10, 11 (Pg. 58)

Homework: Q. 4, 12 (Pg. 58)

and Their Scope (Pg. 211-212), Global Variables and their Scope (Pg. 112-114)
Classwork: Q.1, 2, 3 (Pg. 219-220), Q. 7, 8, 9, 11, 12 (Pg.221- 222)
Homework: Q. 4, 6, 10, 14 (Pg. 221-222)

UNIT 14: FILE HANDLING IN C
Overview (Pg.223), The Stream (Pg. 223), Newline and EOF Marker (Pg. 223-224), Opening a file (Pg. 224-227), Closing a File (Pg.227-229)
Classwork: Q.1 (i-v) (Pg. 238), Q.2(i, iv) (Pg. 238), Q.3(i- iv, ix, x) (Pg. 239), Q.4 (Pg.239)
Homework: Q. 5 (Pg. 239)

LIST OF PRACTICALS GRADE XII:
MS-ACCESS
1.   Creating different tables and assign primary key
2.   Create relationship between tables
3.   Create reports using wizards and design view

C-LANGUAGE
4.   Writing a program which prints a text of 4 lines consisting of characters, integer values and floating values using printf statement.
5.   Writing a program that read and print the data using the Escape Sequence (Asking the name, age, height and gender of the student using scan and print statement).
6.   Writing a program, which uses operators (calculate the area of triangle, volume of spheres and arrange the resultant values in ascending order).
7.   Writing a program which uses 'for' loop statement, (Generate the multiplication table from 2 to 20)
8.   Writing a program which uses 'While' loop and Nested 'while' loop, (Use 'for' loop and continue the process in 'while' loop satisfying this condition).
9.   Finding the factorial of N using 'while' loop, read the value of N using scanf and print the factorial of various N.
10.   Draw a checkerboard and print it using if-else statement, and extend the program using Nested if-else.
11.   Writing a function, which generates factorial of N and calls this function in the 'main' program.
12.   Writing a program which uses multiple arguments in a function. (Develop a user-defined function to generate a rectangle. Use the function for passing arguments to draw different sizes of rectangles and squares).

Note:
        Objective and subjective type should be given from the retained topics and exercise questions.