COURSE CONTENTS
DIT SECOND SEMESTER
FIRST YEAR

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
ENGLISH –I

Total Marks: 100
Total Weeks: 20
Contact Hours per Week: 06
Total Contact Hours: 120

Unit 1	
Khatam-un-Nabiyeen Hazrat Muhammad ﷺ	
Theme/Sub-Theme: Ethics and Values / Handling of Trust / Self-discipline Reading and Critical Thinking: Comprehension Questions / Summary of Text Vocabulary and Grammar: Pronunciation / Dictionary Skills / Word Patterns / Parts of Speech Oral Communication Skills: Oral Discussion / Attentive Listening Writing Skills: Paragraph Writing / Informative / Explanatory Essay Writing	Ethics and Values / Handling of Trust / Self-discipline Comprehension Questions / Summary of Text Pronunciation/Dictionary Skills/Word Patterns/Parts of Speech Oral Discussion / Attentive Listening Paragraph Writing / Informative / Explanatory Essay Writing
Unit No. 2	
Responsibility of the Youth in Nation-Building	
Theme/Sub-Theme: Quality Education Reading and Critical Thinking: Comprehension Questions / Choose the Correct Option Vocabulary and Grammar: Pattern of Word Changes / Tenses Oral Communication Skills: Oral Discussion / Group Presentation Writing Skills: Argumentative Essay	Quality Education Comprehension Questions/ Choose the Correct Option pattern of Word Changes/ Tenses Oral Discussion/ Group Presentation Argumentative Essay
Unit No. 6	
The Echoing Green (Poem)	
Theme/Sub-Theme: Environment Matters Reading and Critical Thinking: Comprehension Questions / Plot Development Review Vocabulary and Grammar: Meaning of a Word / Parts of Speech / Tenses / Sentence Structure Oral Communication Skills: Oral Discussion Writing Skills: Paraphrasing Skills	Environment Matters Comprehension Questions/Plot Development Review Meaning of a Word/Parts of Speech/Tenses/Sentence Structure Oral Discussion Paraphrasing Skills

Unit No.10	
The Punishment of Shahpesh, The Persian, on Khipil, the Builder	
Theme/Sub-Theme: Soft Skills / Decision Making Reading and Critical Thinking: Comprehension Questions Vocabulary and Grammar: Using the Sentence Patterns / Context Clues Oral Communication Skills: Oral Discussion / Dialogues Writing Skills: Writing Narrative Story	Soft Skills/ Decision Making Comprehension Questions/Using the Sentence Patterns/Context Clues Oral Discussion/Dialogues Writing Narrative Story
Unit No. 11	
Those Winter Sundays (Poem)	
Theme/Sub-Theme: Human Relationships Reading and Critical Thinking: Comprehension Questions / Choose the Correct Option Vocabulary and Grammar: Dictionaries and Thesaurus / Writing in Different Varieties of Texts Oral Communication Skills: Presentation / Speech Writing Skills: Writing a Dialogue	Human Relationships Comprehension Questions/ choose the correction dictionaries and thesaurus/writing in different varieties of texts presentation / speech Writing a dialogue
Unit No.13	
Ruba'iyat (Poem)	
Theme/Sub-Theme: Literature & Poetry / Spiritualism Reading and Critical Thinking: Comprehension Questions / Summary Vocabulary and Grammar: Change Tense in Indirect / Direct Speech Oral Communication Skills: Mind-map Writing Skills: Writing a Descriptive Composition	Literature& Poetry/ Spiritualism Comprehension Questions/ Summary Change Tense In Indirect/ Direct Speech Mind-map Writing a Descriptive Composition
Unit No.14	
The End of the Beginning	
Theme/Sub-Theme: Literature & Poetry / Gender Role Reading and Critical Thinking: Comprehension Questions / Plot Development Review Vocabulary and Grammar: Inferred Meaning in Context Sentence Oral Communication Skills: Oral Discussion Writing Skills: Applying Editing and Proofreading Skills	Literature & Poetry/ Gender Role Comprehension Questions/ Plot Development Review Inferred Meaning in Context Sentence Oral Discussion Applying Editing and Proofreading Skills

SYLLABI AND COURSES OF READING
ENGLISH GRAMMER AND COMPOSITION
DIPLOMA IN INFORMATION TECHNOLOGY (02 year)

CHAPTER 1- PARTS OF SPEECH

NOUNS

Kinds of Nouns
Proper Nouns and Common Nouns
Countable Nouns
Material
Nouns
Compound
Nouns
Collective Nouns Uncountable Nouns Abstract
Nouns

PRONOUNS

Types of Pronouns
Indefinite
Pronouns
Reflexive
Pronouns
Possessive
Pronouns
Interrogative
Pronouns
Intensive Pronouns/ Emphatic
Pronouns Personal Pronouns
Demonstrative Pronouns
Relative Pronouns Reciprocal Pronouns Distributive
Pronouns

ADJECTIVES

Comparison of Adjectives
Positive Degree of an
Adjective
Superlative Degree of an Adjective
Comparative Degree of an Adjective
Formation of Comparative and Superlative
Adjectives

CHAPTER 2 PUNCTUATION

Full Stop [.]
Question Mark [?]
Exclamation Mark
[!] Apostrophe [']
Grammar
Exercise 2
Comma [,] Colon [:] Semicolon [;]1
Quotation Marks [" 15]

VERBS
Types of Verbs
Action Verbs
Transitive Verbs
Stative Verbs
Phrasal Verbs
Irregular Verbs
Subject-Verb Agreement
Auxiliary Verbs Intransitive Verbs Modal Verbs
Regular Verbs
Linking Verbs

ADVERBS
Kinds of Adverbs

PREPOSITIONS
Types of Prepositions Kinds
of Prepositions

CONJUNCTION
Classes of Conjunctions Co-ordinating
Conjunctions Correlative Conjunctions,
subordinating conjunctions

INTERJECTION
Definition with examples

CHAPTER 3 TENSES

TENSES
Present Tense
Structure of Present Tense
Past Tense
Structure of Past Tense
Future Tense
Structure of the Future Tense

CHAPTER 5

Sentence

Sentences on the Basis of Function Declarative Sentences

Imperative Sentences

Sentences on the Basis of Structure Simple Sentence

Interrogative Sentences Exclamatory Sentences Complex Sentence

Compound Sentence Compound-Complex Sentence Grammar Exercise - 5

Chapter 7 - Pair of Words

Pair of Words (1 to 48)

SECTION 2-COMPOSITION

CHAPTER -9

Stories with Moral Lessons,

Honesty is the Best Policy,

A Friend in Need is a Friend Indeed,

Union is Strength,

The Mouse and the Lion,

The Foolish Stag,

The King and the Spider,

Greed is a Curse,

As You Sow,

So Shall You Reap,

Look Before You Leap,

The Thief and His Mother,

The Hare and the Tortoise,

CHAPTER -10

Applications

Application for sick leave,

Application for full fee concession,

Application for character certificate,

Application for a scholarship,

Application for the refund of library security fee,

Application for an urgent piece of work

Letters

Letter to your friend requesting him to spend summer vacation with you,

Letter to your friend about the profession you want to adopt,

Letter to your younger brother advising him how to improve his English language.

Letter to your father telling him about your health and studies,

Letter to your younger brother advising him to avoid bad company and pay attention to studies,

Letter to your friend to borrow books from him,

Letter to your mother about your performance in the examination.

Recommended Book: English Part-I

(Intermediate English Book-I),
(Intermediate English Book-III/ English Grammar & Composition 11-12)

Authors:

• Aamna Aamad	• Malik Karrar Hussain Jakhar
• Shazia Manzoor	• Rubia Younas
• Zahida Batool	• Safdir Hussain

Printed by: Ishaq Al Fateh Press
Published by: Maktaba-i-Raheemia
Punjab Education, Curriculum, Training and Assessment Authority

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CERTIFICATE

It is certified that the customized syllabus of **ENGLISH-I** has been devised from the revised textbooks of PECTAA.

Teacher Name: Inam-ul-Haq (Chief Instructor BS-19)
Govt Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
URDU – I

Total Theory Marks:	100
Total Weeks:	20
Contact Hours per Week:	06
Total Contact Hours:	120

حمد و نعت

عنوانات	شعراء
1۔ حمد	حفیظ تائب
2۔ نعت	سید نفیس الحسینی نفیس

حصہ نثر

عنوانات	مصنّفین
3۔ اخلاق نبوی صلی اللہ علیہ وسلم	شبلی نعمانی
4۔ مکاتیب غالب	اسد اللہ غالب
5۔ نیا قانون	سعادت حسن منٹو
6۔ فاقہ میں روزہ	خواجہ حسن نظامی
7۔ اور پاکستان بن گیا	خدیجہ مستور

حصہ نظم

8۔ اے وادیٔ لولاب!	علامہ محمد اقبال
9۔ آزادی	احسان دانش
10۔ اخلاص	رحمان بابا (مترجم پروفیسر محمد حمد خان)

حصہ غزل

11۔ بادباں کھلنے سے پہلے کا اشارہ دیکھنا	پروین شاکر
12۔ سر میں سودا بھی نہیں، دل میں تمنا بھی نہیں	فراق گورکھ پوری
13۔ سلسلے توڑ گیا وہ سبھی جاتے جاتے	احمد فراز

اردو (گیارہویں جماعت)

مؤلفین: ڈاکٹر محمد خاور نوازش پروفیسر طارق حبیب پروفیسر محمد ظفر الحق چشتی محمد طاہر صدیقی رانا حنان محمود

ناشر: ضیاء القرآن پبلی کیشنز **مطبع:** اسحاق الفتح پریس

برائے: پنجاب ایجوکیشن، کریکولم، ٹریننگ اینڈ اسسمنٹ اتھارٹی

مکالمہ جات:

1. دو دوستوں کے مابین امتحان کی تیاری سے متعلق مکالمہ
2. ماں اور بیٹی کے مابین کھانے پینے کے آداب پر مکالمہ
3. استاد کے ساتھ دو شاگردوں کا متوازن غذا سے متعلق مکالمہ
4. ایک کسان کا صنعت کار سے مکالمہ
5. باپ کا بیٹے کے داخلے کے لیے پرنسپل سے مکالمہ
6. الیکشن کے امیدوار اور ووٹر کے درمیان مکالمہ
7. دو سہیلیوں کے درمیان کمپیوٹر، انٹرنیٹ کے مثبت اور منفی استعمال پر مکالمہ

روداد نویسی:

1. سالانہ قومی سیرت کانفرنس کی روداد
2. ایک تفریحی مقام کی سیر کی روداد
3. شجر کاری مہم کی تقریب کی روداد
4. ایک میلے کی روداد
5. یوم آزادی کی روداد

درخواست نویسی:

1. جماعت کے کمرے میں روشنی کے انتظام کے لیے پرنسپل کے نام درخواست
2. پرنسپل کے نام شادی میں شمولیت کے لیے رخصت کی درخواست
3. ہیلتھ آفیسر کے نام محلے کی صفائی کے لیے درخواست
4. مچھر مار سپرے کے چھڑکاؤ کے لیے ایڈمنسٹریٹر کے نام درخواست
5. حصول ملازمت کے لیے ایجوکیشن بورڈ کے چیرمین کے نام درخواست

رسیدات:

1. رسید بابت وصولی رقم: فروخت گندم
2. رسید بابت وصولی رقم: فروخت موٹر سائیکل
3. رسید بابت وصولی رقم: کرایہ مکان
4. رسید بابت وصولی رقم: وظیفہ
5. رسید بابت وصولی رقم: گائے

تلخیص نگاری:

1. "اردو قواعد انشا" کی کتاب کے مطابق پہلے پانچ تلخیصی پیراگراف (صفحہ نمبر 76 تا 78)

گرائمر:

1. شعری اصطلاحات (مطلع، مقطع، قافیہ، ردیف)
2. ادبی اصطلاحات (تشبیہ، استعارہ، تلمیح)
3. تذکیر و تانیث

کتاب کا نام: اردو قواعد و انشا (گیارھویں اور بارھویں جماعت کے لیے)

مصنف / مؤلف: پروفیسر محمد طاہر صدیقی

مدیران: ڈاکٹر جمیل الرحمٰن محمد ظہیر کاشروٹو

ناشر: مرکزی کتب خانہ

مطبع: آر آر پرنٹرز، لاہور

برائے: پنجاب کریکولم اینڈ ٹیکسٹ بک بورڈ، لاہور

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CERTIFICATE

It is certified that the customized syllabus of **URDU-I**
has been devised from the revised textbooks of PECTAA.

Teacher Name: Sadam Hussain (Instructor BS-17)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
ISLAMIAT

Total Theory Marks:	50
Total Weeks:	20
Contact Hours Per Week:	03
Total Contact Hours:	60

باب اول: قرآن مجید اور حدیث نبوی خاتم النبیین ﷺ

(الف) علوم القرآن

(ب) علوم الحدیث

باب دوم: ایمانیات وعبادات

(1) **ایمانیات :**

(الف) توحید کے دلائل و تقاضے

(ب) رسالت محمدی خاتم النبیین ﷺ کی خصوصیات

(ج) ملائکہ پر ایمان

(د) کتب سماویہ پر ایمان

(ہ) آخرت پر ایمان

(2) **عبادات:**

(الف) فلسفہ نماز

(ب) فلسفہ زکوٰۃ وصدقات

(ج) فلسفہ صوم

(د) فلسفہ حج و قربانی

باب سوم: سیرت نبوی خاتم النبیین ﷺ

(الف) نبی کریم خاتم النبیین ﷺ بطور مثالی سربراہ خاندان

(ب) نبی کریم خاتم النبیین ﷺ بطور مثالی سربراہ ریاست

(ج) نبی کریم خاتم النبیین ﷺ بطور مثالی سپہ سالار

(د) نبی کریم خاتم النبیین ﷺ کی معاشی تعلیمات

باب ہفتم: اسلامی تعلیمات اور عصر حاضر کے تقاضے

(الف) قانون کی پاسداری

(ب) نظام اسلام کی نشاۃ ثانیہ اور مسلمانوں کی ذمہ داریاں

(ج) اسلاموفوبیا اور ہماری ذمہ داریاں

مجوزہ کتاب : اسلامیات (لازمی) برائے (گیارہویں جماعت)

مصنفین: پروفیسر ڈاکٹر شہباز منج، ڈاکٹر فخر الزمان، پروفیسر ڈاکٹر محمد اکرم ورک، ڈاکٹر شاہ عبد الرؤف، ڈاکٹر محمد اویس سرور، محمد صفدر جاوید، ڈاکٹر سلطان سکندر، ڈاکٹر محمد منشا طیب

ناشر: حسن بک سنٹر، لاہور **مطبع:** شخصیت پرنٹرز، لاہور

برائے: پنجاب ایجوکیشن، کریکولم، ٹریننگ اینڈ اسسمنٹ اتھارٹی

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CERTIFICATE

It is certified that the customized syllabus of **ISLMIAT**
has been devised from the revised textbooks of PECTAA.

Teacher Name: Tanvir Hussain Abid (Sr.Instructor BS-18)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore.

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
ETHICS- I

غیر مسلموں کے لیے متبادل ترجمۃ القرآن

Total Theory Marks:	50
Total Weeks:	20
Contact Hours Per Week:	03
Total Contact Hours:	60

1۔	مذاہب کا تعارف	مذہب کی تعریف مختلف ماہرین کی نظر میں		مذہب کی جامع تعریف
		مذہب کی سماجی، فلسفیانہ اور نفسیاتی تفہیم		مذہب پر معاشرے کے اثرات
2۔	پاکستان میں مختلف مذاہب	اسلام		مسیحیت
4۔	آداب	کام کی جگہ کے آداب	خدمت گار کے آداب	ملاقاتی کے آداب
5۔	مشاہیر	عبدالستار ایدھی	مدر ٹریسا	جمشید سروان جی مہتا

مجوزہ کتاب : اخلاقیات (لازمی) برائے (گیارہویں جماعت)
مصنفین: ڈاکٹر عبداللہ شاہ ہاشمی ڈاکٹر محمد شفیع مرزا
ناشر: الفصیل ناشران کتب، لاہور
برائے: پنجاب ایجوکیشن، کریکولم، ٹریننگ اینڈ اسسمنٹ اتھارٹی

Advisory Note: Teachers and students are advised to strictly adhere to the syllabus prescribed and notified by the Punjab Board of Technical Education (PBTE), Lahore. This syllabus shall serve as the official framework for all teaching and learning activities. Furthermore, all examinations conducted by PBTE Lahore will be based exclusively on the contents of this approved syllabus.

CERTIFICATE

It is certified that the customized syllabus of **ETHICS-I** has been devised from the revised textbooks of PECTAA.

Teacher Name: Tanvir Hussain Abid (Sr.Instructor BS-18)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE

CUSTOMIZED SYLLABUS FOR DIT (02 Year)

MUTALAE QURAN-E-HAKEEM-I

Total Theory Marks:	50
Total Weeks:	20
Contact Hours Per Week:	03
Total Contact Hours:	60

فہرستِ عنوانات

1 - قرآنِ مجید کے آداب

2 - ہدایات برائے اساتذہ کرام

3 - مقاصدِ تدریس

4 - سُورَةُ الْبقَرَةِ: تعارف اور خصوصیات

5 - سُورَةُ الْبقَرَةِ : مضامین اور اہم نکات

6 - سُورَةُ الْبقَرَةِ: متن و ترجمہ

7 - سُورَةُ الْبقَرَةِ: مشق

8 - سُورَةُ آلِ عِمْرَانَ: تعارف اور خصوصیات

9 - سُورَةُ آلِ عِمْرَانَ: مضامین اور اہم نکات

10 - سُورَةُ آلِ عِمْرَانَ: متن و ترجمہ

11 - سُورَةُ آلِ عِمْرَانَ: مشق

12 - رموزِ او قافِ قرآنِ مجید

(بامحاورہ ترجمے کا امتحان سورۃ البقرۃ کی آیت 1 تا7، 255، 275، 284 تا286 اور سورۃ آل عمران کی آیت 102 1
تا104، 123 تا125، 134، 190 تا194 سے لیا جائے گا)

کتاب کا نام : ترجمۂ القرآنِ المجید (برائے گیارھویں جماعت)

مصنف: حافظ محمد طاہر

بک ڈویلپر: جدید ایجوکیشنل سروسز، لاہور

Advisory Note: Teachers and students are advised to strictly adhere to the syllabus prescribed and notified by the Punjab Board of Technical Education (PBTE), Lahore. This syllabus shall serve as the official framework for all teaching and learning activities. Furthermore, all examinations conducted by PBTE Lahore will be based exclusively on the contents of this approved syllabus.

CERTIFICATE

It is certified that the customized syllabus of

MUTALAE QURAN-E-HAKEEM-I

has been devised from the revised textbooks of PECTAA.

Teacher Name: Waseem (Instructor BS-17)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
CIVICS- I

Total Theory Marks:	50
Total Weeks:	20
Contact Hours Per Week:	03
Total Contact Hours:	60

CHAPTER I: CIVICS – WHAT IS IT?

- Introduction
- Definition (Pg 1–2)

CHAPTER III: STATE

- Introduction
- Nature of State
- Meaning (Pg 26)
- Elements/Origin (Pg 27–33)

CHAPTER V: GOVERNMENT

- Introduction
- Classification
- Meaning (Pg 49–55)
- Democracy (Types, Merits, Demerits) (Pg 54–61)
- Dictatorship (Features, Merits, Demerits) (Pg 63–67)
- Federal & Unitary (Merits/Demerits)
- Parliamentary & Presidential (Types)
- Legislature, Executive, Judiciary (Pg 73–76)
- Organs

CHAPTER VI: LAW

- Liberty
- Meaning of Liberty
- Relationship between Law, Liberty & Equality (Pg 92–94)

CHAPTER VII: CITIZEN AND CITIZENSHIP

- Introduction
- Definition (Pg 96)
- Human Rights and Responsibilities
- Rights and Responsibilities of Citizen in Islamic Perspective (Pg 106–108)

CHAPTER VIII: CONSTITUTION

- Introduction
- Definition of Constitution (Pg 111)
- Kinds of Constitution (Pg 113)

Recommended Book: Civics
Authors: Prof. Aftab Ahmad Dar, Prof. Haleema Afridi
Published by: PECTAA

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CERTIFICATE

It is certified that the customized syllabus of **CIVICS-I** has been devised from the revised textbooks of PECTAA.

Teacher Name: Mrs. Noor Javed Butt (Instructor BS-17)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
MATHEMATICS-I

Total Marks: 100
Total Weeks: 20
Contact Hours per Week: 06
Total Contact Hours: 120

UNIT-I (Complex Number) **07H**

1.1 Complex Numbers (Exercise 1.1 Complete)
1.1.1 Recognition of Real and Imaginary Parts
1.1.2 Operations on Complex Numbers
1.1.3 Complex Numbers as Ordered Pairs of Real Numbers
1.1.4 Properties of the Fundamental Operations on Complex Numbers
1.1.5 Argand Diagram

1.2 Equality of Two Complex Numbers (Exercise 1.2 Complete)
1.2.1 Square Root of a Complex Numbers

1.3 Complex Polynomials as a Product of Linear Factor (Exercise 1.3 Complete)
1.3.1 Solution of Quadratic Equation by Completing the Square

UNIT-II (Functions and Groups) **04H**

2.1 Concept of Function (Exercise 2.1 Complete)
2.1.1 Definition (Function, Domain, Codomain, Range)
2.1.2 Notation and Value of a Function
2.1.3 Vertical Line Test
2.1.4 Types of Function

2.2 Finding the Intersecting Point Graphically (Exercise 2.2 Q# 1, 2)
2.2.1 Intersection of a Linear Function and Coordinate Axes
2.2.2 Intersection of Two Linear Functions
2.2.3 Intersection of a Linear Function and a Quadratic Function

UNIT-III (Theory of Quadratic Functions) **06H**

3.1 Quadratic Function (Exercise 3.1 Complete)
3.1.1 Analyzing Quadratic Function by Sketching
3.1.2 Finding Maximum and Minimum Values of Quadratic Functions by Completing Square

3.2 Inverse of Quadratic Function
3.3 Absolute Value
3.3.1 Absolute Value Quadratic Equations
3.3.2 Absolute Value Quadratic Inequalities

UNIT-IV (Matrices and Determinants) **10H**

4.1 Matrix (Exercise 4.1 Complete)
4.2 Matrix Operation
4.2.1 Addition of Matrices
4.2.2 Subtraction of Matrices
4.2.3 Scalar Multiplication
4.2.4 Multiplication of Two Matrices

4.3 Properties of Matrix Addition, Scalar Multiplication and Matrix Multiplication

4.4 Determinants (Exercise 4.2 Complete)
4.4.1 Minor and Cofactor of an Element of a Matrix or its Determinant
4.4.2 Determinant of a Square Matrix of Order $n = 3$
4.4.3 Properties of Determinants

4.5 Adjoint and Inverse of a Square Matrix

UNIT-V (Partial Fractions) **06H**

Partial Fraction, Partial Fraction Resolution, Conditional Equation, Identity

5.1 Rational Fraction (Exercise 5.1, 5.2 Complete)
5.1.1 Proper Rational Fraction
5.1.2 Improper Rational Fraction
5.1.3 Resolution of a Rational Fraction $\frac{P(x)}{Q(x)}$ into Partial Fractions Including (CASE-I, CASE-II, CASE-III, CASE-IV)

UNIT-VI (Sequence and Series) **12H**

6.1 Sequence (Exercise 6.1 Complete)
6.1.1 Finite and Infinite Sequences

6.2 Arithmetic Progression or Arithmetic Sequence (A.P.) (Exercise 6.2 Q# 1 to 11)
6.2.1 Selection of Terms in A.P.

6.3 Arithmetic Mean (Exercise 6.3 Complete)
6.4 Series (Arithmetic Series) (Exercise 6.4 Q# 1 to 10)

6.5 Geometric Progression (G.P.) (Exercise 6.5 Q# 1 to 7)
6.5.1 Rule for nth term of a G.P.
6.5.2 Properties of G.P.

6.6 Geometric Mean (Exercise 6.6 Q# 1 to 4)
6.7 Geometric Series (Exercise 6.7 Q# 1 to 4)
6.10 Miscellaneous Series (Exercise 6.10 Q# 1 & 2)

UNIT-VII (Permutations and Combination) **10H**

7.1 Fundamental Principle of Counting (Exercise 7.1 Complete)
7.2 Permutation (Exercise 7.2 Q# 1 to 7)
7.3 Permutation of Objects Not All Different (Exercise 7.3 Q#1 to 7)

7.4 Combinations (Exercise 7.4 Q# 1 to 10)
7.4.1 Applications of Combination in Real Life
7.4.2 Complementary Combinations

UNIT-VIII (Mathematical Induction and Binomial Theorem) **05H**

8.1 Principle of Mathematical Induction (Exercise 8.1 Q# 1 to 4)
8.1.1 Principle of Extended Mathematical Induction

8.2 Binomial Theorem (Exercise 8.2 Q# 1 to 6)
8.2.1 The Middle Term in the Expansion of $(a + b)^n$

UNIT-IX (Division of Polynomials) **06H**

9.1 Polynomial Function (Exercise 9.1 Complete)
9.1.1 Remainder Theorem
9.1.2 Factor Theorem
9.1.3 Synthetic Division

UNIT-X (Trigonometric Identities) **12H**

10.1 Distance Formula (Exercise 10.1 Complete)
10.1.1 Fundamental Law of Trigonometry
10.1.2 Deductions from Fundamental Law

10.2 Trigonometric Ratios of Allied Angles (Exercise 10.2 Complete)
10.3 Further Applications of Basic Identities
10.4 Double Angle Identities
10.5 Half Angle Identities
10.7 Express the Product as Sum or Differences (of Sines and Cosines) (Exercise 10.4 Q# 1 to 5)

UNIT-XI (Trigonometric Functions and Graph) **05H**

11.1 Domain and Range of Sine and Cosine Functions (Exercise 11.1 Complete)
11.1.1 Domain and Range of Tangent and Cotangent Functions
11.1.2 Domain and Range of Secant Function
11.1.3 Domain and Range of Cosecant Function

11.2 Even and Odd Functions
11.3 Period of Trigonometric Function

UNIT-XII (Limit and Continuity) **07H**

12.1 Limit of a Function (Exercise 12.1 Complete)
12.1.1 Meaning of the Phrase "x approaches zero"
12.1.2 Meaning of the Phrase "x approaches Infinity"
12.1.3 Meaning of the Phrase "x approaches a"
12.1.4 Concept of Limit of a Function
12.1.5 Limit of a Function
12.1.6 Theorems on Limits of Functions

12.2 Limits of Important Functions (Exercise 12.2 Complete)
12.2.1 $\lim_{x\to a} \frac{x^n-a^n}{x-a} = na^{n-1}$, where n is a non-zero integers and $a > 0$
12.2.2 $\lim_{x\to 0} \frac{\sqrt{x-a}-\sqrt{a}}{x} = \frac{1}{2\sqrt{a}}$ Where $n$is an integer and $a > 0$
12.2.3 Limit at Infinity
12.2.4 Limit of a Sequence
12.2.5 Methods for Evaluating the Limits at Infinity
12.2.6 $\lim_{n\to+\infty} \left(1+\frac{1}{n}\right)^n = e$
12.2.7 $\lim_{x\to 0} \frac{a^x-1}{x} = \log_e a$
12.2.8 The Sandwich Theorem
12.2.9 If θ is measured in radian, then $\lim_{\theta\to 0} \frac{sin\theta}{\theta} = 1$

12.3 Continuity and Discontinuity of Function
12.3.1 One-Sided Limits
12.3.2 Criterion for Existence of Limits of a Function
12.3.3 Continuity of a Function at a Point

UNIT-XIII Differentiation **12H**

13.1 Tangent to a Curve at a Point (Exercise 13.1 Complete)

13.2 Derivative as the Limit of a Difference Quotient
13.2.1 Derivative as the Rate of Change of Velocity

13.3 Process of Finding Derivative $f'(x)$ by Definition
13.3.1 Notation of Derivative
13.3.2 Finding $f'(x)$ by Definition of Derivative

13.4 Derivative of x^n where $n \in Z$
13.6 Theorems on Differentiation (Exercise 13.2 Complete)

UNIT-XIV Vectors in space

14.1 Vectors (Exercise 14.1 Complete)
14.1.1 Rectangular Coordinates System in Space
14.1.2 Concept of a Vector in Space
14.1.3 Fundamental Mathematical Operations for Vectors in Space
14.1.4 Magnitude of a Vector in Space
14.1.5 Components of a Vector
14.1.6 Properties of Vectors
14.1.7 Distance between Two Points in Space
14.1.8 Direction Angles and Direction Cosine of a Vector

14.2 Dot or Scalar Product (Exercise 14.2 Complete)
14.2.1 Dot or Scalar Product of Two Vectors and Its Geometrical Interpretation
14.2.2 Deduction of the Important Results
14.2.3 Properties of a Vector along another Vector
14.2.4 Properties of Dot Product
14.2.5 Dot Product of Vectors in terms of their Components
14.2.6 Orthogonality of Two Vectors
14.2.7 Angle between Two Vectors
14.2.8 Work Done By a Constant Force

14.3 Cross or Vector Product (Exercise 14.3 Complete)
14.3.1 The Cross Product or Vector Product of Two Vectors and Its Geometrical Interpretation
14.3.2 Parallel Vectors
14.3.3 Derivation of Useful Results of Cross Products
14.3.4 Properties of Cross Product
14.3.5 Analytical Expressions of $\underline{u} \times \underline{v}$ (Determinant formula for $\underline{u} \times \underline{v}$)
14.3.6 Angle between Two Vectors (Cross Product)
14.3.7 Real World Applications on Cross or Vector Product

Recommended Books: Mathematics Part-I

Authors: Prof. Shamshad Muhammad Lodhi (Late)
Prof. Muhammad Amin Chaudhary
Prof. Muhammad Sharif Ghauri (Late)
Prof. Sanaullah Bhatti (Late)
Prof. Khalid Saleem

Published By: Lucky Book Centre, Lahore.

Printed By: Qudrat Ullah Printer, Lahore.

Punjab Education, Curriculum, Training and Assessment Authority (PECTAA)

Advisory Note: Teachers and students are advised to strictly adhere to the syllabus prescribed and notified by the Punjab Board of Technical Education (PBTE), Lahore. This syllabus shall serve as the official framework for all teaching and learning activities. Furthermore, all examinations conducted by PBTE Lahore will be based exclusively on the contents of this approved syllabus.

CERTIFICATE

It is certified that the customized syllabus of **MATHEMATICS-I** has been devised from the revised textbooks of PECTAA.

Teacher Name: Dr. Arsal Kamal (Mathematics)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
ECONOMICS-I

Total Marks:	100
Total Weeks:	20
Contact Hours per Week:	06
Total Contact Hours:	120

CHAPTER NO.1 NATURE AND SCOPE OF ECONOMICS

CONCEPTS	CONTECTS
1.NATURE AND SCOPE OF ECONMICS 2. Definition and law of Economics	1. Define Want and satisfaction 2. Kinds of wants and its characteristics 3. Define Goods and service 4. Kind of Goods 5. Definition of Economics and their Merits and demerits By a. Adam Smith b. Alfred Marshall c. Prof. Robbin's 6. Kinds of Economics and their definition

CHAPTER NO.2 CONSUMER'S BEHAVIOR AND ITS AYALYSIS

CONCEPTS	CONTECTS
1.CONSUMER'S BEHAVIOR 2. UTIITY APPROACH 3. INDIFFERENCE	1. Define Value and its three characteristics 2. Define Wealth and Consumer 3. Define Utility M U and TU and their relation. 4. Law of diminishing Marginal Utility with table and graph and its assumptions. 5. Law of Equi-marginal Utility with table & graph and its limitation. 6. Law of indifference curve with table and graph.

CHAPTER NO.3 DEMAND

CONCEPTS	CONTECTS
1.LAW OF DEMAND AND PRACTICAL USES 2. ELASTICITY OF DEMAND	1. What is Demand, and law of demand, explain it with table and graph its assumption. 2. Change in demand with table and graph: a. Extensions and contraction in demand b. Rise and fall in demand 3. Elasticity of demand and its Total Expenditure Method 4. Concept of Income Elasticity and cross elasticity.

CHAPTER NO.4 SUPPLY

CONCEPTS	CONTECTS
1. LAW OF SUPPLY AND PRACTICAL USES. 2. ELASTICITY OF SUPPLY.	1. What is Supply and law of Supply, explain it with table and graph its assumption. 2. Explain it with table and graph: a. Extensions and contraction in Supply b. Rise and fall in Supply 3. Elasticity of Supply and its measurement. 4. Factor influencing the Ealsicity of supply.

CHAPTER NO.5 EQUILIBRIUM

CONCEPTS	CONTECTS
1. Equilibrium in Demand and Supply	1. Define Market Equilibrium. 2. Equilibrium of Demand and Supply 3. Effect of Change in Demand and Supply in Market Equilibrium.

CHAPTER NO.6 THEORY OF PRODUCTION

CONCEPTS	CONTECTS
1. Theory of Production 2. Factor of Production.	1. Define Production 2. Factor of Production Land, Labour, Capital, Organization and their Characteristics.

CHAPTER NO.7 ESCALE OF PRODUCTION AND LAW OF RETURN

CONCEPTS	CONTECTS
1. Scale of Production 2. Law of Return	1. What is Scale of Production? And what are the determinant of Scale of production. 2. Merit and Demerit of Large Scale Production. 3. Law of Production (Increasing, Constant, Diminishing) and their Relation with with cost of production

CHAPTER NO.8 REVENUE ANALYSIS

CONCEPTS	CONTECTS
1. Application Of Revenue Curve in Price and Output Determination.	1.Define Revenue, M.R, AR, T.R 2. Define Short Run, Long Run, Perfect Competition and Monopoly. 3. Analysis of Revenue Under Perfect Competition. 4. Price and output Determination under Perfect Competition in the short Run.

CHAPTER NO.9 DISTRIBUTION: FACTOR PRICING

CONCEPTS	CONTECTS
1. Factor Pricing 2. Productivity.	1. Define Rent, What is Recardian theory of rent. 2. What is Marginal Productive theory. 3. Define wages,Interest and profit and their kinds.

Recommended Book: Economics Part-I

Authors: Mahmood Ahmed Ch.
Azra Ismat Ullah Awan

Editors: Rubina Qamar Qureshi
Muhammad Ikram Rana

Published by: Muhammadi Publisher & Stationers, Lahore.

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CERTIFICATE

It is certified that the customized syllabus of **ECONOMICS-I** has been devised from the revised textbooks of PECTAA.

Teacher Name: Naseer Ahmed (Principal BS-19)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
STATISTIC-I

Total Marks: 100
Total Weeks: 20
Contact Hours per Week: 06
Total Contact Hours: 120

CHAPTER NO. 1 INTRODUCTION OF STATISTIC

Define Statistics and its importance. Variable, Descriptive and Inferential Statistics, Source of Data.(Define Primary Data and Secondary Data)

CHAPTER NO. 2 PRESENTATION OF DATA

Introduction, Classification and Tabulation, Frequency Distribution, Graphic Representation of Data, Simple Bar Chart, Multiple Bar Chart, Pie Chart.

CHAPTER NO. 3 MEASUR OF LOCATION

Introduction, Arithmetic Mean and weighted Mean, Calculating A.M of Group and Ungroup data and describe its Merits and Demerit, Properties of Median, Mode and its Merit and Demerits Calculation of Median,Mode of Group and Ungroup data and Empirical Relationship between Mean, Median and Mode

CHAPTER NO. 4 MEASURE OF DISPERSION

Introduction of Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation and skewness and their Merits and Demerit. Also, calculate the Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation and skewness

CHAPTER NO. 5 INDEX NUMBER

Introduction, Type of Index Number, Limitation of Index Number, Use of Index Numbers, Construction of price Index Numbers and Unweighted.

CHAPTER NO. 6 PROBABLITY

Introduction, Permutation, Combination, Probability and Condition Probability

CHAPTER NO. 7 RANDOM VARIABLE

Introduction, Random Number and their Generation, Application of Random Number and Concept of Random Variable.

CHAPTER NO. 8 PROBABILITY DISTRIBUTION

Introduction, Probability Mass Function, Probability Density Function, Simple Univariate Discrete and Continuous Distributions, Properties of Probability Mass Function, Probability Density Function. Expectation and Variance of the Simple Discrete Random Variable , Properties of Expectation, Distribution Function.

CHAPTER NO. 9 BINOMIAL PROBABLITY DISTRIBUTION

Introduction , Binomial Probability Distribution, Mean and variance of the Binomial Distribution,

Recommended Book: Statistics Part-I

Authors: Dr. Faqir Muhammad Mr. Amjad Mehmood
Editor: Mazhar hayat SS PCTB, Lahore
Publisheer: Saeed Book Center, Lahore
Punjab Education, Curriculum, Training and Assessment Authority

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CERTIFICATE

It is certified that the customized syllabus of **STATISTICS-I** has been devised from the revised textbooks of PECTAA.

Teacher Name: Naseer Ahmed (Principal BS-19)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore

PUNJAB BOARD OF TECHNICAL EDUCATION LAHORE
CUSTOMIZED SYLLABUS FOR DIT (02 Year)
PHYSICS –I
(Theory 85 marks Practical 15 marks)

Total Marks:	100
Total Weeks:	20
Contact Hours per Week:	06
Total Contact Hours:	120

CHAPTER: 1 MEASUREMENTS

1.1	Physical Quantities and SI Units
1.3	Uncertainty in Measurement
1.4	Significant Figures
1.5	Precision and Accuracy
1.7	Dimensions of Physical Quantities

CHAPTER: 2 FORCE AND MOTION

2.1	Scalars
2.2	Vectors
2.3	Product of Two Vectors
2.4	Equations of Motion
2.6	Projectile Motion
2.7	Momentum
2.8	Elastic and Inelastic Collisions

CHAPTER: 3 CIRCULAR MOTION

3.1	Angular Measurements
3.2	Centripetal Force
3.4	Moment of Inertia
3.5	Angular Momentum

CHAPTER: 4 WORK, ENERGY AND POWER

4.1	Work Done by Constant Force
4.2	Work Done by variable Force
4.4	Power
4.5	Energy
4.7	Work-Energy Theorem
4.8	Interconversion of Potential and Kinetic Energy

CHAPTER 5: SOLIDS AND FLUID DYNAMICS

5.1	Classification of Solids
5.2	Mechanical Properties of Solids
5.3	Stress, Strain and Young's Modulus
5.7	Archimedes' Principle
5.8	Steady, Non-viscous and Ideal Fluid
5.9	Equation of Continuity
5.11	Bernoulli's Equation
5.16	Superfluids

CHAPTER 6: HEAT AND THERMODYNAMICS

6.1	Assumption of the Kinetic Theory of Gasses
6.2	Internal Energy
6.3	Heat and Work
6.4	First Law of Thermodynamics
6.7	Second Law of Thermodynamics
6.9	Refrigerators

CHAPTER 7: WAVES

7.1	Wave Motion
7.2	Principle of Superposition
7.3	Interference and its Types
7.4	Stationary Waves & their Formation
7.8	Diffraction of Waves
7.11	Doppler Effect

CHAPTER 8: PHYSICAL OPTICS

8.1	Polarization of Light
8.2	Types of Polarization
8.3	Production and Detection of Plane Polarized Lights
8.6	Gravitational Waves(GWs)
8.7	Interferometer

CHAPTER 9: ELECTROSTATICS AND CURRENT ELECTRICITY

9.1	Coulomb's Law
9.2	Electric Field Strength
9.3	Electric Flux
9.4	Gauss's Law
9.5	Electric Potential
9.6	Electron Volt
9.10	Electric Current
9.12	Ohm's Law
9.13	Resistivity and its Dependence upon Temperature
9.14	Electric Power
9.19	Use of a Galvanometer
9.20	Thermistors

CHAPTER 10: ELECTROMAGNETISM

10.1	Force on a Current Carrying Conductor in a uniform Magnetic Field
10.2	Magnetic Flux and Flux Density
10.6	Induced EMF and Faraday's Law
10.7	Lenz's Law and Direction of Induced EMF
10.9	Ferrofluids

CHAPTER 11: NUCLEAR AND PARTICLE PHYSICS

12.1	Structure and properties of the Nucleus
12.2	Fundamental Forces of Nature
12.3	Matter and Anti Matter
12.4	Radioactivity
12.5	Fundamental Particles

LIST OF EXPERIMENTS:

1. To find the volume of cylinder using Vernier caliper.
2. To find the area of cross section of a wire or volume of small sphere using micrometer screw gauge.
3. To find the unknown weight of a body by the method of vector addition of forces.
4. To find the moment of inertia of a fly-wheel.
5. Determination of value of 'g' by free fall using and electronic timer/tick timer.
6. To find the resistance of a voltmeter by drawing graph between R and I/V.
7. Variation of resistance of thermistor with Temperature.
8. Relation between current passing through a tungsten filament lamp and the potential applied across it.
9. To study the variation of electric current with intensity of light using a photocell.
10. To measure the high resistance by neon Flash Lamp.

Recommended Book: Physics Part-I

Authors:

• Prof. Muhammad Ali Shahid (Izaz-e-Fazeelat)
• Prof. Dr. (Rtd.) Ijaz Mujtaba Ghauri
• Mr. Shahzad Hussain

• Prof. (Rtd.) Muhammad Nisar
• Prof. Riaz Muhammad Khan
• Mr. Muhammad Saleem

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CERTIFICATE

It is certified that the customized syllabus of **PHYSICS-I**
has been devised from the revised textbooks of PECTAA.

30-09-2026

Teacher Name: Mrs. Fazila (Instructor BS-17)
Govt. Graduate College of Commerce, Hunza Block, Allama Iqbal Town, Lahore