



LEARNING TRAILS AY 2026-27

YEAR: 12

TERM 1_WEEK 8(Oct 26th -30th , 2026)

IT	MATHEMATICS
<p>Topics: System software. Normalization</p> <p>Learning Objectives: Describe the types and functions of system software. Analyze the functions of the following system software:</p> <ul style="list-style-type: none"> compilers interpreters linkers device drivers operating systems Utilities <p>Explain how a high-level language is translated to run on different computer systems using: interpreters and cross compilers.</p> <p>Discuss the advantages and disadvantages of different types of software.</p> <p>Resources needed: Textbook, Computer system, task sheets</p> <p>Homework/Assignments: Solve past paper questions.</p>	<p>Topics: Trigonometry</p> <p>Learning Objectives: Sketch and use graphs of the sine, cosine and tangent functions (for angles of any size, and using either degrees or radians) Use the exact values of the sine, cosine and tangent of 30°, 45°, 60° and related angles e.g. $\cos 150^\circ = -\frac{\sqrt{3}}{2}$ Use the notations $\sin^{-1} x$, $\cos^{-1} x$, $\tan^{-1} x$ to denote the principal values of inverse trigonometric relations. Use the identities $\frac{\sin \theta}{\cos \theta} = \tan \theta$ and $\sin^2 \theta + \cos^2 \theta = 1$</p> <p>Find all the solutions of simple trigonometric equations lying in a specified interval.</p> <p>Resources needed: Text book, Calculator, Electronic Board https://cambridgepapers.net/a-level-mathematics-9709-pure-mathematics-1-trigonometry-trigonometric-identities</p> <p>Homework/Assignments: Daily Practice Questions, Weekly Assignment</p>



ADVANCED ARABIC	GENERAL ARABIC
<p>Topics: <u>اسم التفضيل</u></p> <p>Learning Objectives: <u>أن يعرف المتعلم اسم التفضيل</u> <u>أن يستخرج المتعلم اسم التفضيل من الجمل</u> <u>أن يحدد المتعلم أسلوب أركان أسلوب التفضيل من خلال الأمثلة</u> <u>أن يعرب المتعلم أسلوب التفضيل</u> <u>أن يوظف المتعلم أسلوب التفضيل في جمل مفيدة</u></p> <p>Resources needed: <u>الكتاب المدرسي - البوربوينت - السبورة بطاقات تفاعلية دفتر الطالب</u></p> <p>Homework/Assignments: <u>كتابة فقرة قصيرة عن أهمية القراءة وتأثيرها على عقل الانسان . مستخدما أسلوب التفضيل .</u></p>	<p>Topics: <u>سياق الهجن</u></p> <p>Learning Objectives: <ul style="list-style-type: none"> • أن يتعرف الطالب المفردات الجديدة • أن يقارن الطالب بين سياق الخيول وسباق الهجن • أن يذكر الطالب مراحل تدريب الهجن • أن يجيب الطالب عن أسئلة الكتاب المدرسي </p> <p>Resources needed: الكتاب المدرسي _ بوربوينت _ دفتر الطالب</p> <p>Homework/Assignments: <u>يكتب الطالب عن اهتمام الإمارات بالرياضة ورعايتها للكثير من الفعاليات في الدولة</u></p>
PHYSICS	BIOLOGY
<p>Topics: forces density and pressure</p> <p>Learning Objectives: 4.3 Density and pressure Candidates should be able to: 1 define and use density 2 define and use pressure 3 derive, from the definitions of pressure and density, the equation for hydrostatic pressure $\Delta p = \rho g \Delta h$ 4 use the equation $\Delta p = \rho g \Delta h$ 5 understand that the upthrust acting on an object in a fluid is due to a difference in hydrostatic pressure 6 calculate the upthrust acting on an object in a fluid using the equation $F = \rho g V$ (Archimedes' principle)</p> <p>Resources needed: <u>Pictures, ppt, simulation</u></p> <p>Homework/Assignments: <u>Past paper topical levelled question 2021-2025</u></p>	<p>Topics: Enzymes, Cell membranes and transport.</p> <p>Learning Objectives: Enzymes <ol style="list-style-type: none"> 1. Explain that the maximum rate of reaction (V_{max}) is used to derive the Michaelis–Menten constant (K_m), which is used to compare the affinity of different enzymes for their substrates. 2. Explain the effects of reversible inhibitors, both competitive and non-competitive, on enzyme activity. 3. Investigate the difference in activity between an enzyme immobilised in alginate and the same enzyme free in solution, and state the advantages of using immobilised enzymes. </p> <p>Cell membranes and transport. <ol style="list-style-type: none"> 1. Describe the fluid mosaic model of membrane structure with reference to the hydrophobic and hydrophilic interactions that account for the </p>



	<p>formation of the phospholipid bilayer and the arrangement of proteins.</p> <ol style="list-style-type: none">Describe the arrangement of cholesterol, glycolipids and glycoproteins in cell surface membranes.Describe the roles of phospholipids, cholesterol, glycolipids, proteins and glycoproteins in cell surface membranes, with reference to stability, fluidity, permeability, transport (carrier proteins and channel proteins), cell signalling (cell surface receptors) and cell recognitionoutline the main stages in the process of cell signalling leading to specific responses:<ul style="list-style-type: none">secretion of specific chemicals (ligands) from cellstransport of ligands to target cellsbinding of ligands to cell surface receptors on target cells <p><u>Resources needed:</u> Text Book, Videos, Pictures and animations. <u>Homework/Assignments:</u> Solve past papers and topical questions.</p>
CHEMISTRY	ACCOUNTING
<p><u>Topics:</u> Elecctro Chemistry</p> <p><u>Learning Objectives:</u> calculate oxidation numbers of elements in compounds and ions 2 use changes in oxidation numbers to help balance chemical equations 3 explain and use the terms redox, oxidation, reduction and disproportionation in terms of electron transfer and changes in oxidation number 4 explain and use the terms oxidising agent and reducing agent</p>	<p><u>Topics:</u> Partnership Accounting Accounts of Limited Companies –Introduction <u>Learning Objectives:</u> To formulate financial statements of partnership business Understand features and accounting treatment of ordinary shares, bonus issues, rights issues, debentures, dividends and reserves Analyse the advantages and disadvantages to the company and to the shareholders of a company making a bonus issue of shares and a rights issue of shares <u>Resources needed:</u> PPT</p>



<p>5 use a Roman numeral to indicate the magnitude of the oxidation number of an element</p> <p><u>Resources needed:</u></p> <p>Textbook, Topical Questions Save my Exams</p> <p><u>Homework/Assignments:</u></p> <p>Textual Questions</p>	<p>Text book</p> <p>Formats</p> <p>Task sheets</p> <p><u>Homework/Assignments:</u></p> <p>Topical questions</p>
ISLAMIC ARABIC	ISLAMIC EDUCATION
<p><u>Topics:</u></p> <p>غزوة الأحزاب</p> <p><u>Learning Objectives:</u></p> <p>أن يسمع للآيات الكريمة مراعيًا أحكام التجويد</p> <p>أن يفسر مفردات الآيات الكريمة</p> <p>أن يستنتج بعض أحكام الآيات الكريمة</p> <p>أن يحرص على القيم التي تضمنتها الآيات الكريمة</p> <p><u>Resources needed:</u></p> <p>الكتاب المدرسي، المصحف الشريف، السبورة الذكية، عرض تقديمي عن غزوة الأحزاب، ومقاطع صوتية لتلاوة الآيات الكريمة.</p> <p><u>Homework/Assignments:</u></p> <ul style="list-style-type: none"> الإجابة عن أسئلة الدرس في الكتاب المدرسي توضيح أهم الدروس والعبر المستفادة من غزوة الأحزاب. استنتاج القيم المستفادة من الآيات الكريمة، مثل الصبر والثبات والتوكل على الله تعالى 	<p><u>Topics:</u></p> <p>Surah Al-Ahzab (Verses 9–20) – The Battle of the Confederates (Battle of the Trench)</p> <p><u>Learning Objectives:</u></p> <p>By the end of the lesson, students will be able to:</p> <ol style="list-style-type: none"> Recite Surah Al-Ahzab (Verses 9–20) correctly while applying the rules of Tajweed. Explain the major events and historical background of the Battle of the Confederates (Al-Ahzab). Describe the challenges faced by the Prophet Muhammad (PBUH) and the Muslims during the battle. Analyse the differences between the attitudes of true believers and hypocrites during difficult situations. Evaluate the importance of faith, patience, teamwork, and trust in Allah when facing challenges. Apply the lessons learned from the Battle of the Confederates to real-life situations.



Resources Needed:

1. The Holy Qur'an – Surah Al-Ahzab (Verses 9–20).
2. Islamic Education textbook.
3. Interactive whiteboard and PowerPoint presentation.
4. Worksheets, historical maps, and real-life scenario activities.
5. Microsoft Teams, Quizizz, or Kahoot for interactive assessments.

Homework / Assignments:

1. Practise the correct recitation of Surah Al-Ahzab (Verses 9–20).
2. Memorise the assigned verses according to the teacher's instructions.
3. Complete the textbook activities related to the Battle of the Confederates.
4. Write a short paragraph explaining three important lessons Muslims can learn from the Battle of the Confederates and how these lessons can be applied in daily life.
5. Complete the assigned lesson activities on the Alef Platform.

ECONOMICS

Topics:

PED, PES

Learning Objectives:

To explain the income elasticity of demand
To explain the relationship between price elasticity of demand and total expenditure on a product

BUSINESS

Topics:

Management

Learning Objectives:

- **evaluate the differences between the views of Fayol and Mintzberg on the role of management**
- **analyse the key differences in management styles**



To analyse the implications for decision-making of price elasticity, income elasticity and cross elasticity of demand

To define and to calculate the pes

Resources needed:

PPT

Past paper questions

Task sheet

Homework/Assignments:

Topical questions, MCQ - text book

• **evaluate the appropriateness of these styles to different business situations**

• **analyse the differences between McGregor's Theory X and Theory Y.**

Resources needed:

E book

Topical case studies

Homework/Assignments:

Practice end of chapter questions