

**BUKIT PANJANG GOVT HIGH SCHOOL**  
 Topics covered for End of Year Examination 2021  
**Secondary 3 Express**

<b>Subject</b>	<b>Topics Covered</b>
Elementary Mathematics	Sec 1 Chapters Sec 2 Chapters Sec 3 Chapter 1 to 10
Additional Mathematics	Chapters 1 to 9.2 (Up to page 213 of textbook)
Physics	<u>Papers 1 and 2 (Theory):</u> <ol style="list-style-type: none"> <li>1. Physical Quantity, Units and Measurement</li> <li>2. Kinematics</li> <li>3. Dynamics (Forces)</li> <li>4. Mass, Weight and Density</li> <li>5. Turning Effect of Forces</li> <li>6. Pressure</li> <li>7. Energy, Work and Power</li> <li>8. Kinetic Model of Matter</li> <li>9. Transfer of Thermal Energy</li> <li>10. Temperature</li> <li>11. Thermal Properties of Matter</li> <li>12. Light (<b>exclude</b> critical angle, total internal reflection, lenses)</li> </ol> <u>Paper 3 (Practical):</u> <ul style="list-style-type: none"> <li>● Manipulation, measurement and observation (MMO)</li> <li>● Presentation of data and observations (PDO)</li> <li>● Analysis, conclusions and evaluation (ACE)</li> </ul>

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Subject	Topics Covered
Chemistry	<p data-bbox="479 409 808 441"><u>Papers 1 and 2 (Theory):</u></p> <ol data-bbox="495 457 1380 1060" style="list-style-type: none"><li data-bbox="495 457 1380 546">1. Experimental Chemistry (Experimental Design, Methods of Purification and Analysis, Identification of Ions and Gases)</li><li data-bbox="495 562 1380 703">2. The Particulate Nature of Matter (Kinetic Particle Theory, Atomic Structure, Structure and Properties of Materials, Ionic Bonding, Covalent Bonding, Metallic Bonding)</li><li data-bbox="495 720 1153 751">3. Formulae, Stoichiometry and the Mole Concept</li><li data-bbox="495 768 909 800">4. Chemical Reactions (Redox)</li><li data-bbox="495 816 1161 848">5. Acids, Bases and Salts (Acids and bases, Salts)</li><li data-bbox="495 865 1380 953">6. The Periodic Table (Periodic trends, Group properties, Transition elements)</li><li data-bbox="495 970 1315 1058">7. Metals (Properties of metals, Reactivity series, Extraction of metals, Recycling of metals, Iron)</li></ol> <p data-bbox="479 1075 734 1106"><u>Paper 3 (Practical):</u></p> <ul data-bbox="503 1123 1218 1323" style="list-style-type: none"><li data-bbox="503 1123 698 1155">● Planning (P)</li><li data-bbox="503 1171 1218 1203">● Manipulation, measurement and observation (MMO)</li><li data-bbox="503 1220 1120 1251">● Presentation of data and observations (PDO)</li><li data-bbox="503 1268 1104 1299">● Analysis, conclusions and evaluation (ACE)</li></ul>

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Subject	Topics Covered
Biology	<p data-bbox="477 415 808 449"><u>Papers 1 and 2 (Theory):</u></p> <ol data-bbox="493 466 873 919" style="list-style-type: none"><li data-bbox="493 466 607 499">1. Cells</li><li data-bbox="493 516 792 550">2. Molecular Genetics</li><li data-bbox="493 567 873 600">3. Movement of Substances</li><li data-bbox="493 617 662 651">4. Nutrients</li><li data-bbox="493 667 669 701">5. Enzymes</li><li data-bbox="493 718 750 751">6. Nutrition in Man</li><li data-bbox="493 768 766 802">7. Transport in Man</li><li data-bbox="493 819 776 852">8. Nutrition in Plants</li><li data-bbox="493 869 792 903">9. Transport in Plants</li></ol> <p data-bbox="477 936 734 970"><u>Paper 3 (Practical):</u></p> <ul data-bbox="506 987 1218 1184" style="list-style-type: none"><li data-bbox="506 987 704 1020">● Planning (P)</li><li data-bbox="506 1037 1218 1071">● Manipulation, measurement and observation (MMO)</li><li data-bbox="506 1087 1123 1121">● Presentation of data and observations (PDO)</li><li data-bbox="506 1138 1107 1171">● Analysis, conclusions and evaluation (ACE)</li></ul>

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Subject	Topics Covered
Science 'O' (Physics, Chemistry)	<p><u>Physics</u></p> <ol style="list-style-type: none"> <li>1. Physical Quantity, Units and Measurement</li> <li>2. Kinematics</li> <li>3. Dynamics (Forces)</li> <li>4. Mass, Weight and Density</li> <li>5. Turning Effect of Forces</li> <li>6. Pressure</li> <li>7. Energy, Work and Power</li> <li>8. Kinetic Model of Matter</li> <li>9. Transfer of Thermal Energy</li> <li>10. Thermal Properties of Matter</li> <li>11. General Waves</li> <li>12. Electromagnetic Spectrum</li> <li>13. Light - Reflection, Refraction, Total Internal Reflection only</li> </ol> <p><u>Chemistry</u></p> <ol style="list-style-type: none"> <li>1. Experimental Chemistry (Experimental Design, Methods of Purification and Analysis, Identification of Ions and Gases)</li> <li>2. The Particulate Nature of Matter (Kinetic Particle Theory, Atomic Structure, Structure and Properties of Materials, Ionic Bonding, Covalent Bonding, Metallic Bonding)</li> <li>3. Formulae, Stoichiometry and the Mole Concept</li> <li>4. Chemical Reactions (Redox)</li> <li>5. Acids, Bases and Salts (Acids and bases, Salts)</li> <li>6. The Periodic Table (Periodic trends, Group properties, Transition elements)</li> <li>7. Metals (Properties of metals, Reactivity series, Extraction of metals, Recycling of metals, Iron)</li> </ol>

**BUKIT PANJANG GOVT HIGH SCHOOL**  
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Subject	Topics Covered
English Literature (Full)	'Fahrenheit 451' (Parts 1, 2 & 3) + Unseen Poetry
English Literature (Elective)	'Fahrenheit 451' (Parts 1 & 2) + Unseen Poetry
Geography	<u>Paper 1</u> Coasts: Gateway 1 - 3, Geographical Investigation <u>Paper 2</u> Plate Tectonics: Gateway 1 - 3 Weather and Climate: Gateway 1 - 3
Geography (Elective)	Plate Tectonics: Gateway 1 - 3 Weather and Climate: Gateway 1-2, Geographical Investigation
History (Full)	<u>Topics tested for both SBCS* and Structured-Essay Questions</u> <u>Southeast Asia History</u> British colonial rule in Malaya* French colonial rule in Vietnam <u>Modern World History</u> Impact of World War I Stalin's USSR* Hitler's Germany* Outbreak of War in Europe + Defeat of Germany (both chapters should be studied together) Outbreak of War in Japan + Defeat of Japan (both chapters should be studied together) <i>Any of the SBCS &amp; SEQ topics may appear in P1 and P2.                      (SBCS topics* may also be tested for SEQ if they are not set for SBCS)</i>

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<b>Subject</b>	<b>Topics Covered</b>
History (Elective)	<u>Topics tested for both SBCS* and Structured-Essay Questions</u> Impact of World War I Stalin's USSR* Hitler's Germany* Outbreak of War in Europe + Defeat of Germany (both chapters should be studied together) <i>(SBCS may also be tested for SEQ if they are not set for SBCS)</i>
Social Studies	Issue 1 (chapters 1-3) and Issue 2 (chapters 4-6)
Malay Literature (Elective)	1. Prosa Moden: Tika Aksara Menari , Kudrat, Nyanyuk. 2. Sajak: Tidak Senang Dengan Duduk-duduk , Kepada Pohon Tak Bernama , Ke Makam Bonda 3. Teks Bebas: Prosa Moden & Sajak
Chinese Literature (Elective)	A组 : 指定文本选读 ( 现当代小说、诗歌 ) B组 : 文学作品赏析 ( 课外小说、新诗文本 )

**BUKIT PANJANG GOVT HIGH SCHOOL**  
**Topics covered for End of Year Examination 2021**  
**Secondary 3 Normal (Acad)**

<b>Subject</b>	<b>Topics Covered</b>
Elementary Mathematics	Sec 1 Chapters Sec 2 Chapters Sec 3 Chapters 1 to 10
Mathematics Syllabus A	Sec 1 Chapters Sec 2 Chapters Sec 3 Chapters 1-7
Additional Mathematics	Sec 3 Chapters 1, 2, 3, 4, 7, 9
Principles of Accounts	Chapters 1-5, 9-12, 14, 17
Design and Technology	1. Design process Communications 2. Mechanism 3. Electronics
Nutrition & Food Science	1. Proteins 2. Carbohydrates 3. Fats 4. Vitamins 5. Minerals 6. Water & Dietary fibre 7. Diet & Health Problems 8. Diet and Meal Planning 9. Preparation and Cooking of Food 10. Methods of cooking 11. Reactions in food during preparation and cooking 12. Sensory Evaluation

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**Topics covered for End of Year Examination 2021**  
**Secondary 3 Normal (Acad)**

<b>Subject</b>	<b>Topics Covered</b>
Science 'N' (Physics)	<ol style="list-style-type: none"> <li>1. Measurement</li> <li>2. Kinematics</li> <li>3. Dynamics (Forces)</li> <li>4. Mass, Weight and Density</li> <li>5. Pressure</li> <li>6. Turning Effect of Forces</li> <li>7. Energy, Work and Power</li> <li>8. Kinetic Model of Matter</li> <li>9. Transfer of Thermal Energy</li> <li>10. Thermal Properties of Matter</li> </ol>
Science 'N'(Chemistry)	<ol style="list-style-type: none"> <li>1. Experimental Chemistry (Experimental Design, Methods of Purification and Analysis, Identification of Gases)</li> <li>2. The Particulate Nature of Matter (Kinetic Particle Theory, Atomic Structure, Structure and Properties of Materials, Ionic Bonding and Covalent Bonding)</li> <li>3. Chemical Formulae</li> <li>4. Acids, Bases and Salt (Acids and Bases, Salts)</li> </ol>
Science 'N' (Biology)	<ol style="list-style-type: none"> <li>1. Cell structure and organization</li> <li>2. Movement of substances</li> <li>3. Nutrients</li> <li>4. Enzymes</li> <li>5. Nutrition in Humans</li> <li>6. Nutrition in Plants</li> </ol>



**BUKIT PANJANG GOVT HIGH SCHOOL**  
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**Secondary 3 Normal (Acad)**

Subject	Topics Covered
Science 'O' (P,C) O Level	<p><u>Physics</u></p> <ol style="list-style-type: none"> <li>1. Physical Quantity, Units and Measurement</li> <li>2. Kinematics</li> <li>3. Dynamics (Forces)</li> <li>4. Mass, Weight and Density</li> <li>5. Turning Effect of Forces</li> <li>6. Pressure</li> <li>7. Energy, Work and Power</li> <li>8. Kinetic Model of Matter</li> <li>9. Transfer of Thermal Energy</li> <li>10. Thermal Properties of Matter</li> <li>11. General Waves</li> <li>12. Electromagnetic Spectrum</li> <li>13. Sound</li> <li>14. Light - Reflection, Refraction &amp; Total Internal Reflection only</li> </ol> <p><u>Chemistry</u></p> <ol style="list-style-type: none"> <li>1. Experimental Chemistry (Experimental Design, Methods of Purification and Analysis, Identification of Ions and Gases)</li> <li>2. The Particulate Nature of Matter (Kinetic Particle Theory, Atomic Structure, Structure and Properties of Materials, Ionic Bonding, Covalent Bonding, Metallic Bonding)</li> <li>3. Formulae, Stoichiometry and the Mole Concept</li> <li>4. Chemical Reactions (Redox)</li> <li>5. Acids, Bases and Salts (Acids and bases, Salts)</li> <li>6. Metals (Properties of metals, Reactivity series, Extraction of metals, Recycling of metals, Iron)</li> </ol>

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**Secondary 3 Normal (Acad)**

<b>Subject</b>	<b>Topics Covered</b>
English Literature (Elective)	'Code Name Verity' + Unseen Poetry
Geography (Elective)	Plate Tectonics: Gateway 1 - 2 Weather and Climate: Geographical Investigation, Gateway 1 - 2
History (Elective)	<u>Topics tested for both SBCS* and Structured-Essay Questions</u> Impact of World War I Stalin's USSR* Hitler's Germany* Outbreak of War in Europe + Defeat of Germany (both chapters should be studied together)
Social Studies	Issue 1 (chapters 1-3) and Issue 2 (chapters 4-6)

**BUKIT PANJANG GOVT HIGH SCHOOL**  
**Topics covered for End of Year Examination 2021**  
**Secondary 3 Normal (Tech)**

<b>Subject</b>	<b>Topics Covered</b>
Mathematics Syllabus T	Sec 1 Chapters Sec 2 Chapters Sec 3 Chapters 1-5
Mathematics Syllabus A	Sec 1 Chapters Sec 2 Chapters Sec 3 Chapters 1-7
Science (NT)	<u>Module 4</u> 1. Energy and Its Uses 2. Energy Transfer Through Waves 3. Effects of Forces 4. Electricity 5. Sources of Electricity <u>Module 6</u> 9. Digestion 10. Breathing 11. Fitness and Cardiac Health 12. Staying Healthy (units 12.1 & 12.2 only)
Elements of Business Skills	Chapters 1 to 6 (Up to page 126 of textbook)
Computer Applications	All topics from Sec 1 to 3 except video making

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**Secondary 3 Normal (Tech)**

<b>Subject</b>	<b>Topics Covered</b>
Design and Technology	1. Design Communications 2. Mechanism
Food Studies	1. Planning meals + Meal Analysis 2. Food Management (Reason for cooking, Evaluation of food & food safety, pastries & cake making) 3. Food Commodities (A) Meat & poultry (B) Cereals & cereal products (C) Eggs (D) Dairy products (E) Vegetables (F) Fruits (G) Convenience food (H) Fats and oil