KEMENTERIAN PENDIDIKAN MALAYSIA

# RANCANGAN PENGAJARAN TAHUNAN

# 2022/2023

# MATHEMATICS (DLP)
# YEAR SIX

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SCHOOL BAGDE

**SCHOOL NAME** : .....

**SCHOOL ADDRESS** : .....

**TEACHER'S NAME** : .....

<table>
<tr><th>WEEK: 1-5</th><th>LEARNING AREA : NUMBERS AND OPERATIONS</th><th colspan="3">TOPIC: 1.0 WHOLE NUMBERS AND BASIC OPERATIONS</th></tr>
<tr><th>CONTENT STANDARD</th><th>LEARNING STANDARD</th><th>REMARKS</th><th colspan="2">PERFORMANCE STANDARD</th></tr>
<tr><th></th><th></th><th></th><th>PL</th><th>DESCRIPTOR</th></tr>
<tr><td rowspan="2">1.1 Whole number up to 10 000 000</td><td rowspan="2">Pupils will be able to:<br>1.1.1 Read, say and write any numbers up to 10 000 000.<br>1.1.2 Represent numbers up to 10 000 000 and determine the number patterns.<br>1.1.3 Read, say and write any numbers up to 10 000 000 in fraction of a million with 2, 4, 5, 8 and 10 as the denominators involving daily situations.<br>1.1.4 Read, say and write any numbers up to 10 000 000 in decimal of a million up to three decimal places involving daily situations.<br>Convert numbers in decimal of a million and fraction of a million to whole number and vice versa.</td><td rowspan="2">Notes:<br>● Can introduce place value of billions and trillions.<br>● Fraction of a million in proper fractions and mixed numbers.<br>Suggested Activities:<br>● Can use various calculation tools such as calculator, MS Excel, MS Word and abacus in the process of number representation, creating and determining number patterns.</td><td>1</td><td>● State any number up to 10 000 000 involving whole numbers, fraction of a million and decimal of a million.<br>● Represent numbers up to 10 000 000 using calculation tools.</td></tr>
<tr><td>2</td><td>● Explain steps in solving number sentences involving basic operations and mixed operations.<br>● Convert numbers in fraction of a million and decimal of a million into whole numbers and vice versa.</td></tr>
<tr><td rowspan="4">1.2 Basic and mixed operations</td><td rowspan="4">1.2.1 1.2.1 Solve basic operations and mixed operations number sentences involving whole numbers, fraction of a million and decimal of a million with and without brackets including the use of unknown.</td><td rowspan="4">Notes :<br>Emphasis on calculation order of operation involving brackets and mixed operations.</td><td>3</td><td>● Classify numbers within 100 into prime numbers and composite numbers.<br>● Determine number patterns using calculation tools.<br>● Solve number sentences of basic operation and mixed operation involving whole numbers, fraction of a million and decimal of a million with and without brackets including the use of unknown and justify the answer.</td></tr>
<tr><td>4</td><td>Solve daily routine problems involving numbers up to 10 000 000.</td></tr>
<tr><td>5</td><td>Solve daily routine problems involving numbers up to 10 000 000 using various strategies.</td></tr>
<tr><td>6</td><td>Solve daily non-routine problems involving numbers up to 10 000 000 creatively and innovatively.</td></tr>
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| WEEK: 6-8 | LEARNING AREA : NUMBERS AND OPERATIONS | TOPIC: 1.0 WHOLE NUMBERS AND BASIC OPERATIONS | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** |

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| 1 | • State any number up to 10 000 000 involving whole numbers, fraction of a million and decimal of a million.<br>• Represent numbers up to 10 000 000 using calculation tools. |
| 2 | • Explain steps in solving number sentences involving basic operations and mixed operations.<br>• Convert numbers in fraction of a million and decimal of a million into whole numbers and vice versa. |
| 3 | • Classify numbers within 100 into prime numbers and composite numbers.<br>• Determine number patterns using calculation tools.<br>• Solve number sentences of basic operation and mixed operation involving whole numbers, fraction of a million and decimal of a million with and without brackets including the use of unknown and justify the answer. |
| 4 | Solve daily routine problems involving numbers up to 10 000 000. |
| 5 | Solve daily routine problems involving numbers up to 10 000 000 using various strategies. |

| CONTENT STANDARD | LEARNING STANDARD | REMARKS |
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| 1.3 Prime Numbers and Composite Numbers | 1.3.1 Classify numbers within 100 to prime numbers and composite numbers. | **Notes:**<br>• Composite numbers are numbers that can be divided by 1, itself and other numbers.<br>• 0 and 1 are not prime numbers or composite numbers.<br><br>**Suggested Activities:**<br>Use various strategies to identify prime numbers and composite numbers. |
| 1.4 Problem solving | 1.4.1 Solve daily routine problems involving whole numbers, prime numbers, composite numbers, fraction of a million and decimal of a million for basic operations and mixed operations, with and without brackets including the use of unknown. | **Suggested Activities:**<br>• Use Polya Model in problem solving:<br>1. Understand the problem;<br>2. Plan a solving strategy;<br>3. Carry out the strategy; and<br>4. Check the answer.<br><br>• Use various problem-solving strategies such as drawing diagrams, identifying patterns and trying simpler case.<br><br>• Use various teaching and learning strategies such as contextual learning and mastery learning.<br><br>• Use the calculation tools to check |

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| | | answer. | 6 | Solve daily non-routine problems involving numbers up to 10 000 000 creatively and innovatively. |

| WEEK: 9-13 | LEARNING AREA : NUMBERS AND OPERATIONS | TOPIC: 2.0 FRACTIONS, DECIMALS AND PERCENTAGES | | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
| | | | **PL** | **DESCRIPTOR** |
| 2.1 Fractions | Pupils will be able to:<br>2.1.1 Divide fractions of two numbers involving proper fractions, whole numbers and mixed numbers. | **Suggested Activities:**<br>● Introduce depreciation while teaching assets.<br>● Make connections between assets and insurance. | 1 | Read number sentences of basic operations and mixed operations involving whole numbers, fractions, decimals and percentages. |
| **2.2** Decimals | 2.2.1 Multiply decimals with decimals, the product up to three decimal places..<br>2.2.2 Divide decimals by decimals, the quotient up to three decimal places | **Notes:**<br>The functions of insurance and takaful are to protect assets and policy holders. | 2 | ● Convert decimals to percentages more than 100% and vice versa.<br>● Explain steps in solving number sentences of basic operations and mixed operations, with and without brackets. |
| **2.3** Percentages | 2.3.1 Convert decimals to percentages more than 100% and vice versa.<br>2.3.2 Solve addition and subtraction number sentences involving percentages.<br>2.3.3 Determine value of percentages within and more than 100% of a quantity in decimals and vice versa. | **Notes:**<br>Percentages involving mixed numbers, within<br>and more than 100%.<br>**Suggested Activities:**<br>• Use hundred grid.<br>• Use various strategies, such as contextual<br>● learning and mastery learning | 3 | ● Solve basic operations and mixed operations number sentences and justify answer.<br>● Determine values of percentages more than 100% of a given quantity in decimals and vice versa. |
| | | | 4 | Solve daily routine problems involving whole numbers, fractions, decimals and percentages. |
| | | | 5 | Solve daily routine problems involving whole numbers, fractions, decimals and percentages using various strategies. |

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| | | | 6 | Solve daily non-routine problems involving whole numbers, fractions, decimals and percentages creatively and innovatively. |
| **#SELEPAS MINGGU 11** | **CUTI PENGGAL 1, SESI 2022/2023 (KUMPULAN A: 03.06.2022 - 11.06.2022, KUMPULAN B: 04.06.2022 - 12.06.2022)** | | | |

| **WEEK: 15-16** | **LEARNING AREA : NUMBERS AND OPERATIONS** | | **TOPIC: 2.0 FRACTIONS, DECIMALS AND PERCENTAGES** | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
| | | | **PL** | **DESCRIPTOR** |
| 2.4 Mixed operations | 2.4.1 Solve mixed operations number sentences of any two basic operations, involving whole numbers, decimals and fractions, with and without brackets. | **Notes:**<br>Mixed operations number sentences involving any two types of basic operations.<br><br>**Suggested Activities:**<br>● Use various strategies, such as contextual learning and mastery learning. | 1 | Read number sentences of basic operations and mixed operations involving whole numbers, fractions, decimals and percentages. |
| | | | 2 | ● Convert decimals to percentages more than 100% and vice versa.<br>● Explain steps in solving number sentences of basic operations and mixed operations, with and without brackets. |
| 2.5 Problem solving | 2.5.1 Solve daily problems involving whole numbers, fractions, decimals and percentages. | **Suggested Activities:**<br>● Use Polya Model in problem solving:<br>1. Understand the problem;<br>2. Plan a solving strategy;<br>3. Carry out the strategy; and<br>4. Check the answer.<br><br>Use various teaching and learning strategies, such as simulation and | 3 | ● Solve basic operations and mixed operations number sentences and justify answer.<br>● Determine values of percentages more than 100% of a given quantity in decimals and vice versa. |
| | | | 4 | Solve daily routine problems involving whole numbers, fractions, decimals and percentages. |

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| | | project-based learning. | 5 | Solve daily routine problems involving whole numbers, fractions, decimals and percentages using various strategies. |
| | | | 6 | Solve daily non-routine problems involving whole numbers, fractions, decimals and percentages creatively and innovatively. |

| **WEEK: 17-20** | **LEARNING AREA : NUMBERS AND OPERATIONS** | **TOPIC: 3.0 MONEY** | | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
| | | | **PL** | **DESCRIPTOR** |
| 3.1 Financial Management | Pupils will be able to:<br>3.1.1 Recognise cost price, selling price, profit, loss, discount, rebate, voucher, bill, receipt, invoice, asset, liability, interest, dividend and service tax.<br>3.1.2 Determine cost price, selling price, profit, loss, discount, rebate, interest, dividend and service tax. | **Suggested Activities:**<br>● Introduce depreciation while teaching assets.<br>● Make connections between assets and insurance. | 1 | Recognise cost price, selling price, profit, loss, discount, rebate, voucher, bill, receipt, invoice, asset, liability, interest, dividend and service tax. |
| 3.2 Insurance and Takaful | 2.3.4 Recognise insurance and takaful.<br>2.3.5 Explain purpose and importance of insurance and takaful protection. | **Notes:**<br>The functions of insurance and takaful are to protect assets and policy holders. | 2 | ● Explain cost price, selling price, profit, loss, discount, voucher, rebate, bill, receipt, invoice, asset, liability, interest, dividend and service tax.<br>● State importance of insurance and takaful. |

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| 3.3 Problem solving | 2.3.6 Solve daily problems involving cost price, selling price, profit, loss, discount, rebate, voucher, bill, receipt, invoice, asset, liability, interest, dividend and service tax, financial management and risks in daily situation. | **Suggested Activities:**<br>● Use Polya Model in problem solving:<br>1. Understand problem;<br>2. Plan a solving strategy;<br>3. Carry out the strategy;and<br>4. Check the answers.<br>● Use various problem solving strategies such as trying simpler case and trial and error.<br>● Use various teaching and learning strategies such as simulation, mastery learning, contextual learning and project-based learning. | 3 | ● Determine value of profit, loss, discount, rebate, interest, dividend and service tax and justify the answer. |
| | | | 4 | Solve daily routine problems involving financial knowledge and skills. |
| | | | 5 | Solve daily routine problems involving financial knowledge and skills using various strategies. |
| | | | 6 | Solve daily non-routine problems involving financial knowledge and skills creatively and innovatively. |

| **WEEK: 21-25** | **LEARNING AREA : MEASUREMENT AND GEOMETRY** | **TOPIC: 4.O TIME** | | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
| | | | **PL** | **DESCRIPTOR** |
| 4.1 Time zone | Pupils will be able to:<br>4.1.1 Recognise time zone.<br>4.1.2 Determine time difference between two cities located in different time zones. | **Notes:**<br>● Some countries such as Australia and Indonesia have more than one time zone. | 1 | ● Recognise time zone. |
| | | | 2 | ● Explain time difference between two cities located in different time zones. |

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| 4.2 Problem solving | 4.2.1 Solve daily problems involving time zone. | **Notes:**<br>Calculation strategy including the usage of number line. | 3 | • Determine time between two cities located in different time zones. |
| | | | 4 | Solve daily routine problems involving time. |
| | | | 5 | Solve daily routine problems involving time using various strategies. |
| | | | 6 | Solve daily non-routine problems involving time creatively and innovatively. |
| **#SELEPAS MINGGU 23** | **CUTI PENGGAL 2, SESI 2022/2023**<br>**(KUMPULAN A: 02.09.2022 - 10.09.2022, KUMPULAN B: 03.09.2022 - 11.09.2022)** | | | |

| **WEEK: 26-29** | **LEARNING AREA : MEASUREMENT AND GEOMETRY** | | **TOPIC: 5.0 MEASUREMENT** | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
| | | | **PL** | **DESCRIPTOR** |

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<tr>
<td>5.1 Problem Solving</td>
<td>Pupils will be able to:<br>5.1.1 Solve daily problems involving the relationship between length, mass and volume of liquid:<br>(i) Length and mass<br>(ii) Length and volume of liquid<br>(iii) Mass and volume of liquid.</td>
<td>Suggested Activities:<br>● Use Polya Model in problem solving:<br>1. Understand the problem;.<br>2. Plan a solving strategy;.<br>3. Carry out the strategy;.and<br>4. Check the answer.<br>● Use various problem solving strategies to solve problems such as making tables systematically, identifying patterns and logical reasoning.<br>● Use various teaching and learning strategies such as simulation, contextual learning and project-based learning.</td>
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<tr><td>1</td><td>● State quantity of any measurement.</td></tr>
<tr><td>2</td><td>● Explain relationship between two quantities involving measurement.</td></tr>
<tr><td>3</td><td>● Construct number sentences based on word problems involving measurement and justify the answer.</td></tr>
<tr><td>4</td><td>Solve daily routine problems involving measurement.</td></tr>
<tr><td>5</td><td>Solve daily routine problems involving measurement using various strategies.</td></tr>
<tr><td>6</td><td>Solve daily non-routine problems involving measurement creatively and innovatively.</td></tr>
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| WEEK: 30-34 | LEARNING AREA : MEASUREMENT AND GEOMETRY | TOPIC: 6.0 SPACE | | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
| | | | **PL** | **DESCRIPTOR** |
| 6.1 Angles | Pupils will be able to:<br>6.1.1 Draw regular polygons up to eight sides on square grid, triangular grid or using computer software and measure the interior angles formed.<br>3.1.3 Form angles based on given degrees. | **Notes:**<br>● Use protractor and ruler.<br>● The angles given are up to 180° only.<br>**Suggested Activities:**<br>● Can use Microsoft Word, Excel and Geometer's Sketchpad (GSP). | 1 | Recognise and label centre, diameter, radius and interior angles. |
| | | | 2 | ● Explain centre, diameter, radius and interior angles of a circle. |
| 6.2 Circles | 6.2.1 Recognise centre, diameter and radius of a circle.<br>2.3.7 Draw a circle based on given radius then label centre, radius and diameter. | **Notes:**<br>A complete rotation is 360°.<br>**Suggested Activities:**<br>Draw circles with aid of creative and innovative materials. | 3 | ● Draw regular polygons up to eight sides and measure the interior angles.<br>● Form given angles.<br>● Draw circle. |
| 6.3 Problem solving | 2.3.8 6.3.1 Solve daily routine problems involving space. | **Suggested Activities:**<br>● Use Polya Model in problem solving:<br>1. Understand the problem;<br>2. Plan a solving strategy;<br>3. Carry out the strategy; and<br>4. Check the answer.<br>● Use various teaching and learning strategies such as simulation, contextual learning and project-based learning. | 4 | Solve daily routine problems involving space. |
| | | | 5 | Solve daily routine problems involving space using various strategies. |
| | | | 6 | Solve daily non-routine problems involving space creatively and innovatively. |

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| WEEK: 35-36 | LEARNING AREA : RELATIONSHIP AND ALGEBRA | TOPIC: 7.0 COORDINATES, RATIO AND PROPORTION | | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
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| 7.1 Coordinates in first quadrant | Pupils will be able to:<br>4.1.3 7.1.1 Determine horizontal and vertical distance between two locations based on given scale. | **Note:**<br>● Location is represented by coordinates.<br>● Use scale, such as:<br>a. 1 cm represents 1 km<br>b. 1 : 100 000<br>c. 0 1 2 3 4 5 km<br>● Emphasise on reading the scale correctly. | 1 | • Read scales.<br>• State ratio between two quantities. |
| | | | 2 | Explain steps:<br>• Represent ratio between two quantities.<br>• Determine quantity based on ratio.<br>• Determine horizontal and vertical distance between two locations. |
| | | | 3 | • Represent ratio of two quantities in the simplest form.<br>• Determine propotionate quantity based on given ratio.<br>• Determine horizontal and vertical distance between two locations based on given scale. |
| 7.2 Ratio | 4.2.2 7.2.1 Represent ratio of two quantities in the simplest form. | **Note:**<br>Ratio involves whole numbers only. | 4 | Solve daily routine problems involving coordinates, ratio and proportion. |
| | | | 5 | Solve daily routine problems involving coordinates, ratio and proportion using various strategies. |
| | | | 6 | Solve daily non-routine problems involving coordinates, ratio and proportion creatively and innovatively. |

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| **CUTI PENGGAL 3, SESI 2022/2023**<br>**(KUMPULAN A: 09.12.2022 - 31.12.2022, KUMPULAN B: 10.12.2022 - 31.12.2022)** | | | |

| **WEEK: 37-38** | **LEARNING AREA : RELATIONSHIP AND ALGEBRA** | **TOPIC: 7.0 COORDINATES, RATIO AND PROPORTION** | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD**<br>**PL** / **DESCRIPTOR** |
| 7.3 Proportion | 4.1.4 7.3.1 Determine the proportionate quantity based on given ratio. | **Suggested Activities:**<br>● Can determine one or both the quantities based on given ratio. | 1 • Read scales.<br>• State ratio between two quantities.<br>2 Explain steps:<br>• Represent ratio between two quantities.<br>• Determine quantity based on ratio.<br>• Determine horizontal and vertical distance between two locations.<br>3 • Represent ratio of two quantities in the simplest form.<br>• Determine propotionate quantity based on given ratio.<br>• Determine horizontal and vertical distance between two locations based on given scale. |
| 7.4 Problem solving | 4.2.3 7.4.1 Solve daily problems involving coordinates, ratio and proportion. | **Suggested Activities:**<br>● Use Polya Model in problem solving:<br>1. Understand the problem;<br>2. Plan a solving strategy;<br>3. Carry out the strategy; and<br>4. Check the answer.<br><br>Use various teaching and learning strategies, such as simulation, contextual learning and project-based learning. | 4 Solve daily routine problems involving coordinates, ratio and proportion.<br>5 Solve daily routine problems involving coordinates, ratio and proportion using various strategies. |

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| | | | 6 | Solve daily non-routine problems involving coordinates, ratio and proportion creatively and innovatively. |

| WEEK: 39-40 | LEARNING AREA : STATISTIC AND PROBABILITY | | TOPIC: 8.0 DATA HANDLING AND LIKELIHOOD 6.0 SPACE | |
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| **CONTENT STANDARD** | **LEARNING STANDARD** | **REMARKS** | **PERFORMANCE STANDARD** | |
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| 8.1 Pie chart | Pupils will be able to:<br>8.1.1 Complete pie chart with $45^0$, $90^0$ and $180^0$ based on given quantities and interpret data. | **Suggested Activities:**<br>● Provide a circle with centre. | 1 | State whether an event is likely or unlikely to occur. |
| 8.2 Likelihood | 8.2.1 State whether an event is likely or unlikely to occur and give plausible reason.<br>8.2.2 State likelihood of occurrence of an event as impossible, less likely, equally likely, more likely or certain and give plausible reason. | **Suggested Activities:**<br>● Use events in students' daily life<br>● Use various teaching and learning strategies, such as simulation, contextual learning and project-based learning. | 2 | ● State likelihood of the occurrence of an event as impossible, less likely, equally likely, more likely or certain and give plausible reason. |
| | | | 3 | ● Complete pie chart with degrees based on given quantities and interpret data. |

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| 8.3 Problem solving | 8.3.1 Solve problems involving data handling and likelihood in daily situation. | **Suggested Activities:**<br>● Use Polya Model in problem solving:<br>1. Understand the problem;<br>2. Plan a solving strategy;<br>3. Carry out the strategy; and<br>4. Check the answer.<br>● Use various problem solving strategies, such as drawing tables systematically, identifying patterns and logical reasoning.<br>● Use various teaching and learning strategies such as simulation, contextual learning and project-based learning. | 4 | Solve daily routine problems involving data handling and likelihood. |
| | | | 5 | Solve daily routine problems involving data handling and likelihood using various strategies. |
| | | | 6 | Solve daily non routine problems involving data handling and likelihood creatively and innovatively. |

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| 41 | ULANGKAJI |
| 42 | PENTAKSIRAN AKHIR TAHUN |
| 43 | PENGURUSAN AKHIR TAHUN |
| CUTI AKHIR PERSEKOLAHAN SESI 2022/2023<br>(KUMPULAN A: 17.02.2023 - 11.03.2023, KUMPULAN B: 18.02.2023 - 12.03.2023) | |