PINNACLE

6th edition

English Medium

90 DAYS Self-- Preparation Module

New

SSC MATHS

6800+ TCS - MCQ

ALL Latest TCS Questions asked in SSC Exams till Feb 2024

Chapter- Wise Coverage

With detailed explanation & short Tricks

Useful for SSC CGL Tier 1, SSC CGL Tier 2, SSC CPO, SSC CHSL, SSC MTS, Selection post, GD, Delhi police and other Govt. exams

each book has multipurpose unique ID

Baljit Dhaka Sir
Director

PINNACLE Publications

Index

<table>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>6</td><td></td><td>12</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1
(04.06.2019 to 19.06.2019)</td><td>3</td><td></td><td>12</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>4</td><td></td><td>12</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>13</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>13 - 26</td></tr>
<tr><td>2.</td><td>HCF and LCM</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="6">6</td><td>27 - 28</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>23</td><td>28 - 29</td></tr>
<tr><td></td><td></td><td rowspan="20">TCS Previous Year : Practice Questions</td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>26</td><td>29</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>16</td><td>29 - 30</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>1</td><td>30</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>1</td><td>30</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 2
(26.06.2023)</td><td>1</td><td>30</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2022 Tier 1
(02.05.2023 to 20.06.2023)</td><td>20</td><td rowspan="14">7</td><td>30 - 31</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>3</td><td>31</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>4</td><td>31</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>5</td><td>31</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2021 Tier 1
(05.07.2022 to 26.07.2022)</td><td>7</td><td>31 - 32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>1</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>4</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>2</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>2</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>1</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>2</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>5</td><td>32</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>1</td><td>32</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>32 - 33</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>33 - 37</td></tr>
<tr><td>3.</td><td>Simplification</td><td>Concepts</td><td>-</td><td>-</td><td></td><td>38 - 39</td></tr>
</table>

		Varieties Questions	-	33	8	39 - 40
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	4		40
			SSC CGL 2023 Tier 2 (26.10.2023)	2		40
			SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	6		40
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	11		40 - 41
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	18	9	41
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	14		41 - 42
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	1		42
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		42
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	16		42
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	6		43
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	2		43
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	4		43
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	5		43
			SSC CGL 2021 Tier 2 (08.08.2022)	5	10	43
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	2		43
			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	5		43 - 44
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	14		44
			SSC CGL 2021 Tier 1 (11.04.2022 to 21.04.2022)	2		44
			SSC CGL 2020 Tier 2 (29.01.2022 & 03.02.2022)	3		44
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	3		44 - 45
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	2		45
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	2		45
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	6		45
			SSC CHSL 2019 Tier 1 (17.03.2020 to 26.10.2020)	2		45
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	1		45
			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	3		45
			SSC CGL 2018 Tier 2 (11.09.2019 to 13.09.2019)	7		45 - 46

<table>
<tr><td></td><td></td><td></td><td>SSC MTS 2019 Tier 1
(02.08.2019 to 06.09.2019)</td><td>1</td><td rowspan="3"></td><td>46</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2018 Tier 1
(01.07.2019 to 11.07.2019)</td><td>2</td><td>46</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1
(04.06.2019 to 19.06.2019)</td><td>1</td><td>46</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>46</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>46 - 55</td></tr>
<tr><td>4.</td><td>Trigonometry</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="2">11</td><td>56 - 57</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>68</td><td>57 - 59</td></tr>
<tr><td></td><td></td><td rowspan="20">TCS Previous Year : Practice Questions</td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>25</td><td rowspan="2">12 - 13</td><td>59 - 60</td></tr>
<tr><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>88</td><td>60 - 63</td></tr>
<tr><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>61</td><td>14</td><td>63 - 65</td></tr>
<tr><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>7</td><td rowspan="4">15</td><td>65</td></tr>
<tr><td></td><td></td><td>SSC CHSL 2022 Tier 2
(26.06.2023)</td><td>1</td><td>65</td></tr>
<tr><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>52</td><td>65 - 67</td></tr>
<tr><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>1</td><td>67</td></tr>
<tr><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>61</td><td>16</td><td>67 - 69</td></tr>
<tr><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>20</td><td rowspan="9">17</td><td>69 - 70</td></tr>
<tr><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>4</td><td>70</td></tr>
<tr><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>7</td><td>70</td></tr>
<tr><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>16</td><td>70 - 71</td></tr>
<tr><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>15</td><td>71</td></tr>
<tr><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>11</td><td>71 - 72</td></tr>
<tr><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>1</td><td>72</td></tr>
<tr><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>22</td><td>72</td></tr>
<tr><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>30</td><td rowspan="5"></td><td>72 - 74</td></tr>
<tr><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>2</td><td>74</td></tr>
<tr><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>11</td><td>74</td></tr>
<tr><td></td><td></td><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>19</td><td>74 - 75</td></tr>
<tr><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>11</td><td>75</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>2</td><td rowspan="5">18</td><td>75</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>11</td><td>75 - 76</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2018 Tier 1
(01.07.2019 to 11.07.2019)</td><td>6</td><td>76</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1
(04.06.2019 to 19.06.2019)</td><td>7</td><td>76</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>1</td><td>76</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td>-</td><td>76 - 77</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td>-</td><td>77 - 105</td></tr>
<tr><td>5.</td><td>Height and Distance</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="20">19</td><td>106</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>17</td><td>106 - 107</td></tr>
<tr><td></td><td></td><td rowspan="18">TCS Previous Year : Practice Questions</td><td>SSC CHSL 2023 Tier 2
(02.11.2023 and 10.01.2024)</td><td>2</td><td>107</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 2
(26.10.2023)</td><td>1</td><td>107</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>3</td><td>107 - 108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>2</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>3</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>1</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>1</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>1</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>5</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>1</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>1</td><td>108</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>3</td><td>109</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>2</td><td>109</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>5</td><td>109</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>1</td><td>109</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>3</td><td>109</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>109</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>109 - 113</td></tr>
<tr><td>6.</td><td>Mensuration</td><td>Concepts</td><td>-</td><td>-</td><td>20</td><td>114 - 117</td></tr>
</table>

		Varieties Questions	-	92		117 - 121
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	5	21	121
			SSC CGL 2023 Tier 2 (26.10.2023)	2		121
			SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	26		121 - 122
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	31		122 - 123
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	37	22 - 23	123 - 125
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	60		125 - 127
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	16		127 - 128
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		128
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	102	24 - 25	128 - 132
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	32		132 - 133
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	8	26	133 - 134
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	33		134 - 135
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	21		135 - 136
			SSC CGL 2021 Tier 2 (08.08.2022)	8		136
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	4		136 - 137
			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	43	27	137 - 139
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	40		139 - 140
			SSC CGL 2021 Tier 1 (11.04.2022 to 21.04.2022)	13	28	140 - 141
			SSC CGL 2020 Tier 2 (29.01.2022 & 03.02.2022)	11		141
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	44		141 - 143
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	5		143 - 144
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	13		144
			SSC CPO 2020 Tier 1 (23.11.2020 to 26.11.2020)	7		144
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	13		144 - 145
			SSC CHSL 2019 Tier 1 (17.03.2020 to 26.10.2020)	21		145 - 146
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	6		146
			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	16		146 - 147

<table>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>14</td><td rowspan="5">29</td><td>147 - 148</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2019 Tier - 1
(02.08.2019 to 06.09.2019)</td><td>1</td><td>148</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2018 Tier 1
(01.07.2019 to 11.07.2019)</td><td>2</td><td>148</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1
(04.06.2019 to 19.06.2019)</td><td>1</td><td>148</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>2</td><td>148</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>148 - 149</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>149 - 184</td></tr>
<tr><td>7.</td><td>Geometry</td><td>Concepts</td><td>-</td><td>-</td><td>30</td><td>185 - 189</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>112</td><td rowspan="4">31 - 32</td><td>189 - 194</td></tr>
<tr><td></td><td></td><td rowspan="20">TCS Previous Year : Practice Questions</td><td>SSC CHSL 2023 Tier 2
(02.11.2023 and 10.01.2024)</td><td>4</td><td>194</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 2
(26.10.2023)</td><td>2</td><td>194</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>17</td><td>194 - 195</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>93</td><td>33</td><td>195 - 198</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>41</td><td rowspan="5">34 - 35</td><td>198 - 200</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>5</td><td>200</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 2
(26.06.2023)</td><td>2</td><td>200 - 201</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>53</td><td>201 - 202</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>10</td><td>203</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>54</td><td rowspan="5">36</td><td>203 - 205</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>11</td><td>205 - 206</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>5</td><td>206</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>8</td><td>206</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>21</td><td>206 - 208</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>35</td><td rowspan="5">37</td><td>208 - 209</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>18</td><td>209 - 210</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>1</td><td>210</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>46</td><td>210 - 212</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>36</td><td>212 - 213</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>1</td><td rowspan="8">38</td><td>213</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>15</td><td>213 - 214</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>31</td><td>214 - 215</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>18</td><td>215 - 216</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>8</td><td>216 - 217</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>10</td><td>217</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1
(04.06.2019 to 19.06.2019)</td><td>2</td><td>217</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>217 - 218</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>218 - 261</td></tr>
<tr><td>8.</td><td>Algebra</td><td>Concepts</td><td>-</td><td>-</td><td>39</td><td>262 - 263</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>64</td><td rowspan="2">40</td><td>263 - 265</td></tr>
<tr><td></td><td></td><td rowspan="15">TCS Previous Year : Practice Questions</td><td>SSC CHSL 2023 Tier 2
(02.11.2023 and 10.01.2024)</td><td>2</td><td>265</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>12</td><td rowspan="3">41</td><td>265</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>1</td><td>265</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>64</td><td>266 - 268</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>55</td><td rowspan="2">42</td><td>268 - 270</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>12</td><td>270</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>36</td><td rowspan="3">43 - 44</td><td>270 - 271</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>2</td><td>271</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>77</td><td>272 - 274</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>21</td><td rowspan="8">45 - 46</td><td>274 - 275</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>4</td><td>275</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>18</td><td>275 - 276</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>57</td><td>276 - 278</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>19</td><td>278</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>9</td><td>278 - 279</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>2</td><td>279</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1</td><td>31</td><td></td><td>279 - 280</td></tr>
</table>

			(13.08.2021 to 24.08.2021)			
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	37		280 - 281
			SSC CPO 2020 Tier 1 (23.11.2020 to 26.11.2020)	4	47	281
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	8		281
			SSC CHSL 2019 Tier 1 (17.03.2020 to 26.10.2020)	36		281 - 283
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	19		283
			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	16		283 - 284
			SSC CGL 2018 Tier 2 (11.09.2019 to 13.09.2019)	8	48	284
			SSC CGL 2018 Tier 1 (04.06.2019 to 19.06.2019)	6		284
		Answer key	-	-		284 - 286
		Solutions	-	-		286 - 317
9.	Ratio and Proportion	Concepts	-	-	49	318 - 319
		Varieties Questions	-	42		319 - 321
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	4		321
			SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	2		321
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	17		321
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	21	50	322
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	14		322 - 323
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	10		323
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		323
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	18		323 - 324
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	9		324
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	2		324
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	12		324 - 325
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	4		325
			SSC CGL 2021 Tier 2 (08.08.2022)	3		325
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	2	51	325
			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	26		325 - 327
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	9		327

			SSC CGL 2021 Tier 1 (11.04.2022 to 21.04.2022)	2		327
			SSC CGL 2020 Tier 2 (29.01.2022 & 03.02.2022)	7		327
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	32		327 - 329
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	5		329
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	5		329
			SSC CPO 2020 Tier 1 (23.11.2020 to 26.11.2020)	2		330
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	5		330
			SSC CHSL 2019 Tier 1 (17.03.2020 to 26.10.2020)	6		330
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	4		330
			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	1	52	330
			SSC CGL 2018 Tier 2 (11.09.2019 to 13.09.2019)	2		330
			SSC CGL 2018 Tier 1 (04.06.2019 to 19.06.2019)	2		330 - 331
		Answer key	-	-		331
		Solutions	-	-		331 - 344
10.	Partnership	Concepts	-	-		345
		Varieties Questions	-	11		345 - 346
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	1		346
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	3		346
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	3		346
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	1		346
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	1		346
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		346
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	4		346
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	3		346 - 347
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	3	53	347
			SSC CGL 2021 Tier 2 (08.08.2022)	1		347
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	1		347
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	1		347

<table>
<tr><td></td><td></td><td>Year : Practice Questions</td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>18</td><td rowspan="6">56 - 57</td><td>365 - 366</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>37</td><td>366 - 368</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>32</td><td>368 - 369</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>41</td><td>369 - 371</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>7</td><td>371 - 372</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 2
(26.06.2023)</td><td>1</td><td>372</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2022 Tier 1
(02.05.2023 to 20.06.2023)</td><td>19</td><td rowspan="29">58</td><td>372 - 373</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>10</td><td>373</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>2</td><td>373</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>14</td><td>373 - 374</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>3</td><td>374</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>2</td><td>374</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>5</td><td>374 - 375</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2021 Tier 1
(05.07.2022 to 26.07.2022)</td><td>5</td><td>375</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>5</td><td>375</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>8</td><td>375 - 376</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>3</td><td>376</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>12</td><td>376</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>9</td><td>376 - 377</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>6</td><td>377</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>3</td><td>377</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>5</td><td>377 - 378</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>3</td><td>378</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>6</td><td>378</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>3</td><td>378</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>1</td><td>378</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2019 Tier 1
(02.08.2019 to 06.09.2019)</td><td>1</td><td>378</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2018 Tier 1
(01.07.2019 to 11.07.2019)</td><td>2</td><td>378 - 379</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1</td><td>2</td><td>379</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>(04.06.2019 to 19.06.2019)</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>1</td><td></td><td>379</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>379</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>379 - 399</td></tr>
<tr><td>13.</td><td>Pipe and Cistern</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="22">59</td><td>400</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>26</td><td>400 - 401</td></tr>
<tr><td></td><td></td><td rowspan="20">TCS Previous Year : Practice Questions</td><td>SSC CHSL 2023 Tier 2
(02.11.2023 and 10.01.2024)</td><td>1</td><td>401</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>5</td><td>401 - 402</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2022 Tier 1
(02.05.2023 to 20.06.2023)</td><td>2</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>1</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>1</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>1</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>1</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2021 Tier 1
(05.07.2022 to 26.07.2022)</td><td>3</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>2</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>4</td><td>402</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>4</td><td>402 - 403</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>2</td><td>403</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>1</td><td>403</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>1</td><td>403</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>1</td><td>403</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>6</td><td>403</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>1</td><td>403</td></tr>
<tr><td></td><td></td><td>Answer Key</td><td>-</td><td></td><td></td><td>403 - 404</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td></td><td></td><td>404 - 408</td></tr>
<tr><td>14.</td><td>Time , Speed and Distance</td><td>Concepts</td><td>-</td><td></td><td rowspan="3"></td><td>409 - 410</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>45</td><td>410 - 413</td></tr>
<tr><td></td><td></td><td>TCS Previous Year : Practice</td><td>SSC CHSL 2023 Tier 2
(02.11.2023 and 10.01.2024)</td><td>1</td><td>413</td></tr>
</table>

<table>
<tr><td></td><td></td><td>Questions</td><td>SSC CGL 2023 Tier 2
(26.10.2023)</td><td>1</td><td rowspan="2">60</td><td>413</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>14</td><td>413 - 414</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>43</td><td rowspan="4">61</td><td>414 - 416</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>15</td><td>416</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>21</td><td>416 - 417</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>6</td><td>417 - 418</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2022 Tier 1
(02.05.2023 to 20.06.2023)</td><td>32</td><td rowspan="5">62</td><td>418 - 419</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>25</td><td>419 - 420</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>24</td><td>421 - 422</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>8</td><td>422</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>1</td><td>422</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>6</td><td rowspan="15">63</td><td>422 - 423</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2021 Tier 1
(05.07.2022 to 26.07.2022)</td><td>22</td><td>423 - 424</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>15</td><td>424</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>5</td><td>424 - 425</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>6</td><td>425</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>24</td><td>425 - 426</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>4</td><td>426</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>6</td><td>426 - 427</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>2</td><td>427</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>6</td><td>427</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>5</td><td>427</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>1</td><td>427 - 428</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>1</td><td>428</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 1
(04.06.2019 to 19.06.2019)</td><td>7</td><td>428</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td></td><td></td><td>428 - 429</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td></td><td></td><td>429 - 447</td></tr>
<tr><td>15.</td><td>Linear/Circular</td><td>Concepts</td><td>-</td><td></td><td></td><td>448</td></tr>
</table>

	Race	Varieties Questions		9		448 - 449
		TCS Previous Year : Practice Questions	SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	2		449
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	8		449
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	14		449 - 450
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	2		450
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		450
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	1		450
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	5	64	450
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	4		450 - 451
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	2		451
			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	3		451
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	8		451
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	1		451
		Answer key	-	-		451
		Solutions	-	-		451 - 455
16.	Boat and Stream	Concepts	-	-		456
		Varieties Questions	-	16		456 - 457
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	1		457
			SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	4		457
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	6		457
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	5		457 - 458
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	7		458
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	3		458
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	1		458
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	1		458
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	4		458
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	2		459
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	1	65	459

			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	3		459
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	1		459
			SSC CGL 2021 Tier 1 (11.04.2022 to 21.04.2022)	2		459
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	1		459
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	2		459
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	1		459
			SSC CPO 2020 Tier 1 (23.11.2020 to 26.11.2020)	1		459
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	1		459
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	1		459
			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	1		459 - 460
			SSC CGL 2018 Tier 2 (11.09.2019 to 13.09.2019)	1		460
			SSC MTS 2019 Tier 1 (02.08.2019 to 06.09.2019)	1		460
		Answer key	-	-		460
		Solutions	-	-		460 - 464
17.	Percentage	Concepts	-	-		465
		Varieties Questions	-	48		465 - 468
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	4	66	468
			SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	8		468
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	5		468 - 469
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	19		469
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	32		469 - 471
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	18	67	471 - 472
			SSC CHSL 2022 Tier 2 (26.06.2023)	3		472
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	34		472 - 473
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	26		473 - 475
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	5	68	475
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	22		475 - 476
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	15		476 - 477

<table>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>1</td><td rowspan="3">69</td><td>477</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>14</td><td>477</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2021 Tier 1
(05.07.2022 to 26.07.2022)</td><td>24</td><td>477 - 479</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>24</td><td rowspan="15">70</td><td>479 - 480</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>8</td><td>480</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>3</td><td>480 - 481</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>17</td><td>481</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>9</td><td>481 - 482</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>9</td><td>482</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>5</td><td>482 - 483</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>5</td><td>483</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>7</td><td>483</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>3</td><td>483</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>5</td><td>483 - 484</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>4</td><td>484</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2019 Tier 1
(02.08.2019 to 06.09.2019)</td><td>1</td><td>484</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2018 Tier 1
(01.07.2019 to 11.07.2019)</td><td>1</td><td>484</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>1</td><td>484</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>484 - 485</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>485 - 505</td></tr>
<tr><td>18.</td><td>Profit and Loss</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="7">71</td><td>506</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>48</td><td>506 - 508</td></tr>
<tr><td></td><td></td><td rowspan="5">TCS Previous Year : Practice Questions</td><td>SSC CHSL 2023 Tier 2
(02.11.2023 and 10.01.2024)</td><td>3</td><td>508</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 2
(26.10.2023)</td><td>1</td><td>508</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>18</td><td>508 - 509</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>42</td><td rowspan="3">72 - 73</td><td>509 - 511</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>64</td><td>511 - 514</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>14</td><td>514</td></tr>
</table>

			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	10		514 - 515
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		515
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	38	74	515 - 517
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	23		517 - 518
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	13		518
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	9		518 - 519
			SSC CGL 2021 Tier 2 (08.08.2022)	2		519
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	6		519
			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	26		519 - 520
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	9		520 - 521
			SSC CGL 2021 Tier 1 (11.04.2022 to 21.04.2022)	7		521
			SSC CGL 2020 Tier 2 (29.01.2022 & 03.02.2022)	1		521
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	11		521 - 522
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	3		522
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	3		522
			SSC CPO 2020 Tier 1 (23.11.2020 to 26.11.2020)	1		522
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	2	75	522
			SSC CHSL 2019 Tier 1 (17.03.2020 to 26.10.2020)	4		522
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	8		522 - 523
			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	2		523
			SSC CGL 2018 Tier 2 (11.09.2019 to 13.09.2019)	3		523
			SSC CHSL 2018 Tier 1 (01.07.2019 to 11.07.2019)	1		523
		Answer key	-	-		523 - 524
		Solutions	-	-		524 - 542
19.	Discount	Concepts	-	-		543
		Varieties Questions	-	23		543 - 544
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	2		544
			SSC CGL 2023 Tier 2 (26.10.2023)	1		544

<table>
<tr><td></td><td></td><td></td><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>10</td><td rowspan="3">76</td><td>544 - 545</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>1</td><td>545</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>31</td><td>545 - 546</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>30</td><td rowspan="6">77</td><td>546 - 548</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>15</td><td>548</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2022 Tier 1
(02.05.2023 to 20.06.2023)</td><td>20</td><td>548 - 549</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>10</td><td>549 - 550</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>2</td><td>550</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>14</td><td rowspan="15">78</td><td>550</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2022 Tier 1
(09.11.2022 to 11.11.2022)</td><td>6</td><td>550 - 551</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>2</td><td>551</td></tr>
<tr><td></td><td></td><td></td><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>2</td><td>551</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2021 Tier 1
(24.05.2022 to 10.06.2022)</td><td>27</td><td>551 - 552</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>7</td><td>552 - 553</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>4</td><td>553</td></tr>
<tr><td></td><td></td><td></td><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>10</td><td>553</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2020 Tier 1
(13.08.2021 to 24.08.2021)</td><td>12</td><td>553 - 554</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>10</td><td>554</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>3</td><td>554 - 555</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 2
(15.11.2020 to 18.11.2020)</td><td>4</td><td>555</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>5</td><td>555</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2019 Tier 1
(03.03.2020 to 09.03.2020)</td><td>7</td><td>555</td></tr>
<tr><td></td><td></td><td></td><td>SSC CPO 2019 Tier 1
(09.12.2019 to 13.12.2019)</td><td>7</td><td>555 - 556</td></tr>
<tr><td></td><td></td><td></td><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>4</td><td>556</td></tr>
<tr><td></td><td></td><td>Answer key</td><td>-</td><td>-</td><td></td><td>556</td></tr>
<tr><td></td><td></td><td>Solutions</td><td>-</td><td>-</td><td></td><td>556 - 568</td></tr>
<tr><td>20.</td><td>Simple Interest</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="3">79</td><td>569</td></tr>
<tr><td></td><td></td><td>Varieties Questions</td><td>-</td><td>42</td><td>569 - 571</td></tr>
<tr><td></td><td></td><td></td><td>SSC CHSL 2023 Tier 2</td><td>2</td><td>571</td></tr>
</table>

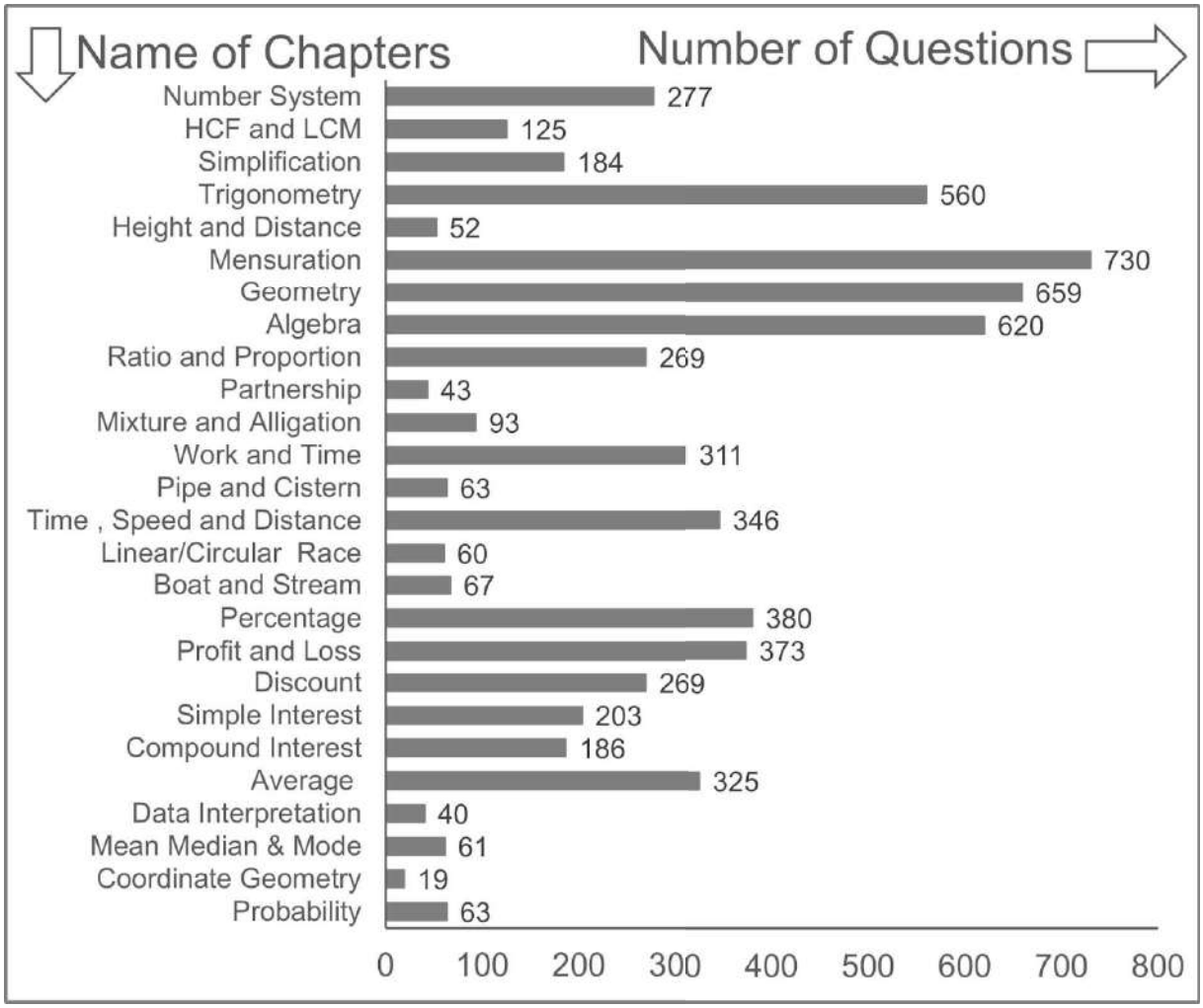
<table>
<tr><td rowspan="31"></td><td rowspan="31"></td><td rowspan="29">TCS Previous Year : Practice Questions</td><td>(02.11.2023 and 10.01.2024)</td><td></td><td rowspan="2"></td><td></td></tr>
<tr><td>SSC CPO 2023 Tier 1
(03/10/2023 to 05/10/2023)</td><td>7</td><td>571</td></tr>
<tr><td>SSC MTS 2023 Tier 1
(01/09/2023 to 14/09/2023)</td><td>20</td><td rowspan="6">80</td><td>571 - 572</td></tr>
<tr><td>SSC CHSL 2023 Tier 1
(02/08/2023 to 17/08/2023)</td><td>20</td><td>572 - 573</td></tr>
<tr><td>SSC CGL 2023 Tier 1
(14.07.2023 to 27.07.2023)</td><td>19</td><td>573 - 574</td></tr>
<tr><td>SSC Selection Post (XI)
(26.06.2023 to 30.06.2023)</td><td>9</td><td>574</td></tr>
<tr><td>SSC CHSL 2022 Tier 2
(26.06.2023)</td><td>1</td><td>574</td></tr>
<tr><td>SSC MTS 2022 Tier 1
(02.05.2023 to 20.06.2023)</td><td>25</td><td rowspan="19">81</td><td>574 - 575</td></tr>
<tr><td>SSC CHSL 2022 Tier 1
(09.03.2023 to 21.03.2023)</td><td>8</td><td>575 - 576</td></tr>
<tr><td>SSC CGL 2022 Tier 2
(02.03.2023 to 07.03.2023)</td><td>3</td><td>576</td></tr>
<tr><td>SSC CGL 2022 Tier 1
(01.12.2022 to 13.12.2022)</td><td>11</td><td>576</td></tr>
<tr><td>SSC CGL 2021 Tier 2
(08.08.2022)</td><td>1</td><td>576</td></tr>
<tr><td>SSC Selection Post (X)
(01.08.2022 to 05.08.2022)</td><td>1</td><td>576 - 577</td></tr>
<tr><td>SSC MTS 2021 Tier 1
(05.07.2022 to 26.07.2022)</td><td>6</td><td>577</td></tr>
<tr><td>SSC CGL 2021 Tier 1
(11.04.2022 to 21.04.2022)</td><td>2</td><td>577</td></tr>
<tr><td>SSC CGL 2020 Tier 2
(29.01.2022 & 03.02.2022)</td><td>2</td><td>577</td></tr>
<tr><td>SSC MTS 2020 Tier 1
(5.10.2021 to 02.11.2021)</td><td>7</td><td>577</td></tr>
<tr><td>SSC CHSL 2020 Tier 1
(12.04.2021 to 12.08.2021)</td><td>1</td><td>577 - 578</td></tr>
<tr><td>SSC CPO 2020 Tier 1
(23.11.2020 to 26.11.2020)</td><td>1</td><td>578</td></tr>
<tr><td>SSC CHSL 2019 Tier 1
(17.03.2020 to 26.10.2020)</td><td>2</td><td>578</td></tr>
<tr><td>SSC CGL 2018 Tier 2
(11.09.2019 to 13.09.2019)</td><td>2</td><td>578</td></tr>
<tr><td>SSC MTS 2019 Tier 1
(02.08.2019 to 06.09.2019)</td><td>9</td><td>578</td></tr>
<tr><td>SSC CHSL 2018 Tier 1
(01.07.2019 to 11.07.2019)</td><td>1</td><td>578</td></tr>
<tr><td>SSC CPO 2018 Tier 1
(12.03.2019 to 16.03.2019)</td><td>1</td><td>578</td></tr>
<tr><td>Answer key</td><td>-</td><td>-</td><td></td><td>578 - 579</td></tr>
<tr><td>Solutions</td><td>-</td><td>-</td><td></td><td>579 - 588</td></tr>
<tr><td rowspan="2">21.</td><td rowspan="2">Compound Interest</td><td>Concepts</td><td>-</td><td>-</td><td rowspan="2"></td><td>589</td></tr>
<tr><td>Varieties Questions</td><td>-</td><td>47</td><td>589 - 592</td></tr>
</table>

22.	Average	Concepts	-	-		610
		Varieties Questions	-	66		610 - 613
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	5	84	613 - 614
			SSC CGL 2023 Tier 2 (26.10.2023)	1		614
			SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	5		614
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	25		614 - 615
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	9		615
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	6		615 - 616
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	5		616
			SSC CHSL 2022 Tier 2 (26.06.2023)	1		616
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	19		616 - 617
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	20		617 - 618
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	2		618
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	11	85	618
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	6		618
			SSC CGL 2021 Tier 2 (08.08.2022)	2		618
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	10		618 - 619
			SSC MTS 2021 Tier 1 (05.07.2022 to 26.07.2022)	47		619 - 621
			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	27		621 - 622
			SSC CGL 2021 Tier 1 (11.04.2022 to 21.04.2022)	7		622
			SSC CGL 2020 Tier 2 (29.01.2022 & 03.02.2022)	2		622
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	20		622 - 623
			SSC CGL 2020 Tier 1 (13.08.2021 to 24.08.2021)	6		623 - 624
			SSC CHSL 2020 Tier 1 (12.04.2021 to 12.08.2021)	8		624
			SSC CPO 2020 Tier 1 (23.11.2020 to 26.11.2020)	2		624
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	2	86	624
			SSC CHSL 2019 Tier 1 (17.03.2020 to 26.10.2020)	4		624
			SSC CGL 2019 Tier 1 (03.03.2020 to 09.03.2020)	6		624 - 625

			SSC CPO 2019 Tier 1 (09.12.2019 to 13.12.2019)	1		625
		Answer key	-	-		625
		Solutions	-	-		625 - 641
23.	Data Interpretation	Concepts	-	-	87	642
		Varieties Questions	-	-		-
		TCS Previous Year : Practice Questions	SSC CPO 2023 Tier 1 (03/10/2023 to 05/10/2023)	09		642 - 643
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	07		643
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	13		643 - 645
			SSC CGL 2023 Tier 1 (14.07.2023 to 27.07.2023)	2		645
			SSC Selection Post (XI) (26.06.2023 to 30.06.2023)	1		645
			SSC MTS 2022 Tier 1 (02.05.2023 to 20.06.2023)	1		645
			SSC CHSL 2022 Tier 1 (09.03.2023 to 21.03.2023)	2		645
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	2		645 - 646
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	2		646
			SSC Selection Post (X) (01.08.2022 to 05.08.2022)	1		646
		Answer key	-	-		646
		Solutions	-	-		646 - 647
		QR Code	-	-		648
24.	Mean, Median & Mode	Concepts	-	-	88	649
		Varieties Questions	-	15		649 - 650
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	3		650
			SSC CGL 2023 Tier 2 (26.10.2023)	1		650
			SSC MTS 2023 Tier 1 (01/09/2023 to 14/09/2023)	1		650
			SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	1		650 - 651
			SSC CHSL 2022 Tier 2 (26.06.2023)	2		651
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	4		651
			SSC CGL 2022 Tier 1 (01.12.2022 to 13.12.2022)	1		651
			SSC CPO 2022 Tier 1 (09.11.2022 to 11.11.2022)	1		651

			SSC CHSL 2021 Tier 1 (24.05.2022 to 10.06.2022)	2		651
			SSC MTS 2020 Tier 1 (5.10.2021 to 02.11.2021)	21		651 - 652
			SSC MTS 2019 Tier I (02.08.2019 to 06.09.2019)	9		652
		Answer key	-	-		652
		Solutions	-	-		652 - 656
25.	Coordinate Geometry	Concepts	-	-		657
		Varieties Questions	-	3		657
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 1 (02/08/2023 to 17/08/2023)	1		657
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	1		657
			SSC CGL 2021 Tier 2 (08.08.2022)	1		657
			SSC CGL 2020 Tier 2 (29.01.2022 & 03.02.2022)	3	89	657 - 658
			SSC CGL 2019 Tier 2 (15.11.2020 to 18.11.2020)	5		658
			SSC CGL 2018 Tier 2 (11.09.2019 to 13.09.2019)	5		658
		Answer key	-	-		658
		Solutions	-	-		658 - 659
26.	Probability	Concepts	-	-		660 - 661
		TCS Previous Year : Practice Questions	SSC CHSL 2023 Tier 2 (02.11.2023 and 10.01.2024)	2		661
			SSC CGL 2023 Tier 2 (26.10.2023)	2		661 - 662
			SSC CHSL 2022 Tier 2 (26.06.2023)	1	90	662
			SSC CGL 2022 Tier 2 (02.03.2023 to 07.03.2023)	4		662
			Practice Questions	54		662 - 664
		Answer key	-	-		664
		Solutions	-	-		664 - 667
	TOTAL QUESTIONS			**6378**	-	-

Distribution of Questions



Number System

Basics of Number System

(1). Face Value : It is nothing but the number itself about which it has been asked.
Eg: In the number 23576, face value of 5 is 5 and face value of 7 is 7.

(2). Place Value : The place value of a number depends on its position in the number. Each position has a value 10^n, the places to its right.
Eg: In the number 23576, place value of 5 is 500 and place value of 3 is 3000.

Types of Numbers

(1). Natural Numbers (N) :
All positive counting numbers. (0 is not included in it.)
Examples: 1, 2, 3, 4 … etc.

(2). Whole Numbers (W): All non-negative numbers are all whole numbers.
Examples: 0, 1, 2, 3, 4… etc.

(3). Integer Numbers (I): All positive numbers and negative numbers including zero. Positive numbers are called positive integers and negative numbers are called negative integers.
I = ….. , -4, - 3, - 2, - 1, 0, 1, 2, 3, 4 ……

(4). Even Numbers : 2, 4, 6, 8, 10….. [Divisible by 2 completely]

(5). Odd Numbers : 1, 3, 5, 7, 9, 11….. [Not divisible by 2 completely]

(6). Rational Numbers : Numbers whose exact value can be determined. Also a number which can be written in the form $\frac{p}{q}$, where p and q are integers and q ≠ 0 is called a rational number. For example,
Examples : $\frac{3}{4}$ = 0.75, $\frac{4}{5}$ = 0.8 , $\frac{9}{-5}$, $\frac{22}{7}$

(7). Irrational Numbers : Numbers whose exact value cannot be determined.
Example : π = 3.142857142857 …

(8). Prime number : A number which is divisible by 1 and itself. 2 is only an even prime number.
Example : 2, 3, 5, 7, 11, etc.
Note:-
Total prime no. between 1 - 50 ⇒ 15
Total prime no. between 1 - 100 ⇒ 25
Total prime no. between 1 - 500 ⇒ 95
Total prime no. between 1 - 1000 ⇒ 168

(9). Composite number : If we remove all prime numbers from natural numbers then whatever is left is called Composite numbers.
Example : 4, 6, 8, 9, 10, 12 etc.
Note :- 1 is neither prime nor composite.

(10). Co - prime number : Two numbers are called Co-prime numbers if their HCF is 1.
Example : (2 and 3), (6 and 11).
Note : Two prime numbers are always co-prime numbers to each other. Any two consecutive integers are always co-prime number to each other.

Factors

The factors of a number are the numbers that divide it completely without leaving any remainder.

Example : 24 can be completely divided by 1, 2, 3, 4, 6, 8, 12 and 24, so these numbers are factors of 24.

Prime factorisation of a number : When a number is written in the form of multiplication of its prime factors, it's called prime factorisation.
Prime factorisation of 24.

2	24
2	12
2	6
	3

24 → 2 × 2 × 2 × 3 or $2^3 \times 3^1$

Number of factors : To find the number of factors we write the number in the form of prime factors and then add +1 to the exponent of prime factors and multiply them.
For example: 24 = $2^3 \times 3^1$
Number of factors of 24 → (3 + 1)(1 + 1) = 4 × 2 = 8.
With the help of an example, we try to find the sum of all factors of a number.
24 = $2^3 \times 3^1$,
Sum of all factors = $(2^0 + 2^1 + 2^2 + 2^3) \times (3^0 + 3^1)$ = 15 × 4 = 60.

Number of even factors of a number : To find the number of even factors of a number, we add +1 to the exponents of prime numbers except 2.
(Note : If a number doesn't have 2 as its factor it will have 0 even factors)
Que. Find the number of even factors of 120.
Ans. 120 = $2^3 \times 3^1 \times 5^1$
Number of even factors = 3 × (1 + 1) × (1 + 1) = 3 × 2 × 2 = 12

Note :- To find **the sum of even factors**, we shall ignore 2^0,
Que. Find the sum of even factors of 120.
Sol:-Sum of even factors = $(2^1 + 2^2 + 2^3)(3^0 + 3^1)(5^0 + 5^1)$ = 14 × 4 × 6 = 336.
Number and Sum of odd factors of a number : to find the number and sum of odd factors of a number, we have to ignore the exponents of 2.

Que. Find the number of odd factors 120.
Sol:- 120 = $2^3 \times 3^1 \times 5^1$
Required number = (1 + 1)(1 + 1) = 4
The exponent of 2 is completely ignored.
Sum of odd factors of 120 = $(3^0 + 3^1)(5^0 + 5^1)$ = 4 × 6 = 24

Some Important Results of Factors:
1001 = 7 × 11 × 13
1001 × abc = abcabc
1001 × 234 = 234234

Que: Which of the following is a factor of 531531?
(a) 15 (b) 13 (c) 11 (d) both b and c

Sol:- 531531 = 1001 × 531
= 7 × 11 × 13 × 531 So, both 11 and 13 are factors of 531531.
111 = 37 × 3 , 1001 × 111 = 111111,
When a single digit is written 6 times, 3, 7, 11, 13, and 37 are factors of it.

Que. Which of the following is a factor of 222222 ?
(a) 17 (b) 57 (c) 68 (d) 74

Sol:- 222222 = 2 × 111111
= 2 × 3 × 7 × 11 × 13 × 37
Clearly, 2 × 37 = 74 is one of the factors.

→ If a, b and c are prime numbers, then the number of prime factors of $a^x \times b^y \times c^z$ is (x + y + z).

Recurring Decimal

Recurring decimals are referred to as numbers that are uniformly repeated after the decimal. Some rational numbers produce recurring decimals after converting them into decimal numbers, but all irrational numbers produce recurring decimals after converting them into decimal form.
Examples :
(1) $\frac{1}{3}$ = 0.3333333 ….. = $0.\overline{3}$

(2) $0.\overline{9} = \frac{9}{9} = 1$

(3) $0.53\overline{27} = \frac{5327 - 53}{9900} = \frac{5274}{9900}$

(4) $2.5\overline{327} = 2 + \frac{5327-53}{9900} = 2\frac{5274}{9900}$

Divisibility Test

By 2:- When last digit is 0 or an even number eg: 520, 588

By 3:- Sum of digits is divisible by 3
eg: 1971, 1974

By 4:- When last two digits are divisible by 4 or, they are zeros eg: 1528, 1700

By 5 :- When last digit is 0 or 5
eg: 1725, 1790

By 6 :- When the number is divisible by 2 and 3 both. eg: 36, 72

By 7 : - Subtract twice the last digit from the number formed by the remaining digits. Like 651 divisible by 7
65 - (1 × 2) = 63. Since 63 is divisible by 7, so is 651.

By 8 :- When the last three digits are divisible by 8. eg: 2256

By 9 :- When sum of digit is divisible by 9 eg: 9216

By 10 :- When the last digit is 0. eg: 452600

By 11:- When the difference between the sum of odd and even place digits is equal to 0 or multiple of 11 .
eg: 217382
Sum of odd place digits = 2 + 7 + 8 = 17
Sum of even place digits = 1 + 3 + 2 = 6
17 – 6 = 11, hence 217382 is divisible by 11.

By 13 : - If adding four times the last digit to the number formed by the remaining digits is divisible by 13, then the number is divisible by 13. Like 1326 is divisible by 13
132 + (6 × 4) = 156. Repeat the same process for 156 .
15 + (6 × 4) = 39.so 39 is divisible by 13

BY 17 :-The divisibility rule of 17 states, "If five times the last digit is subtracted from a number made up of the remaining digits and the remainder is either 0 or a multiple of 17, then the number is divisible by 17".
Like 221: 22 − 1 × 5 = 17.

Prime Number Test

For finding whether any number is a prime number or not, we need to find the nearest square root of given number, then we need to find out whether the given number is divisible by any prime number less than the obtained number or not. If it is divisible then it is not a prime number and if not divisible then it is a prime number.
Example : Find whether 177 is a prime number or not.
Soln : Nearest square root of 177 is 13. Now we need to check whether 177 is divisible by prime numbers less than 13. On checking we find that 177 is divisible by 3. Hence, 177 is not a prime number.

Important Formulas

1. Sum of first n natural number
s = $\frac{n(n+1)}{2}$

2. Sum of first n odd numbers = n^2

3. Sum of first n even numbers
= $n(n+1)$

4. Sum of square of first n natural numbers = $\frac{n(n+1)(2n+1)}{6}$

5. Sum of cubes of first n natural number = $(\frac{n(n+1)}{2})^2$

6. $(x^m - a^m)$ is divisible by $(x-a)$ for every natural number m.

7. $(x^m - a^m)$ is divisible by $(x+a)$ and $(x-a)$ for even values of m.

8. $(x^m + a^m)$ is divisible by $(x+a)$ for odd values of m.

9. Number of prime factors of a^p, b^q, c^r, d^s is $p+q+r+s$ when a, b, c, d are all prime numbers.

10. HCF of $(a^m - 1)$ and $(a^n - 1)$ = $[(a^{HCF(m,n)} - 1)]$

Number of Zeros in an expression

We shall understand this concept with the help of an example.
Let's find the number of zeros in the following expression: 24 × 32 × 17 × 23 × 19 = $(2^3 \times 3^1) \times 2^5 \times 17 \times 23 \times 19$
Notice that a zero is made only when there is a combination of 2 and 5. Since there is no '5' here there will be no zero in the above expression.

Example:-
$8 \times 15 \times 23 \times 17 \times 25 \times 22 =$
$2^3 \times (3^1 \times 5^1) \times 23 \times 17 \times 5^2 \times 2^1 \times 11$
In this expression there are 4 twos and 3 fives. From this 3 pairs of 5×2 can be formed. Therefore, there will be 3 zeros in the final product.

Que. Find the number of zeros in the value of:
$2^2 \times 5^4 \times 4^6 \times 10^8 \times 6^{10} \times 15^{12} \times 8^{14} \times 20^{16} \times 10^{18} \times 25^{20}$.

Sol:-
$2^2 \times 5^4 \times 4^6 \times 10^8 \times 6^{10} \times 15^{12} \times 8^{14} \times 20^{16} \times 10^{18} \times 25^{20}=$
$2^2 \times 5^4 \times 2^{12} \times 2^8 \times 5^8 \times 2^{10} \times 3^{10} \times 3^{12} \times 5^{12} \times 2^{42} \times 2^{32} \times 5^{16} \times 2^{18} \times 5^{18} \times 5^{40}$
Zeros are possible with a combination of 2×5 Here the number of 5's are less so the number of zeros will be limited to the number of 5's.
In this expression number of fives are:
$5^4 \times 5^8 \times 5^{12} \times 5^{16} \times 5^{18} \times 5^{40}$;
i.e. 4 + 8 + 12 + 16 + 18 + 40 = 98

The number of Zeros in n!

To find the number of zeros in n!, we divide "n" by 5 until we get a number less than 5, and then we add all the quotients so obtained.

Que. Find the number of zeros in 36! .

5	36	
5	7	(1)
	1	(2)

The number of zeros = 7 + 1 = 8.

Remainder Theorem

Que. What will be the remainder when 17×23 is divided by 12?

Ans :- We can express this as:
$17 \times 23 = (12+5) \times (12+11)$
$= 12 \times 12 + 12 \times 11 + 5 \times 12 + 5 \times 11$
In the above expression we will find that remainder will depend on the last term i.e. 5×11

Now, $rem.(\frac{5 \times 11}{12}) = 7.$

So, $\frac{12 \times 12 + 12 \times 11 + 5 \times 12 + 5 \times 11}{12}$

and $\frac{5 \times 11}{12}$ remainder is same in both cases which is 7.

Example:- Remainder when
$1421 \times 1423 \times 1425$ is divided by 12?
$rem(\frac{1421 \times 1423 \times 1425}{12})$

$= rem(\frac{5 \times 7 \times 9}{12}) = rem(\frac{35 \times 9}{12})$

$= rem(\frac{11 \times 9}{12}) = 3$

Negative Remainder

Taking a negative remainder will make our calculation easier.

Examples

(i) *rem* $(\frac{7 \times 8}{9})$ = *rem* $(\frac{-2 \times -1}{9})$

$= -2 \times -1 = 2$

(ii) *rem* $(\frac{55 \times 56}{57})$ = *rem* $(\frac{-2 \times -1}{57})$

$= -2 \times -1 = 2$

(iii) *rem* $(\frac{7 \times 10}{9})$ = *rem* $(\frac{-2 \times 1}{9})$

$= -2 \times 1 = -2 \text{ or } 7$

Large Power Concepts

Look at the following examples:

(i) rem $(\frac{28^{12345}}{9}) = rem(\frac{(27+1)^{12345}}{9})$

= rem $(\frac{1^{12345}}{9}) = 1^{12345} = 1$

(ii) rem $(\frac{26^{12345}}{9})$

$= rem\ (\frac{(27-1)^{12345}}{9})$

= rem $(\frac{-1^{12345}}{9})$ = - 1^{12345} = - 1 or 8

Application of Remainder Theorem

Que. Find the last two digits of the expression

$22 \times 31 \times 44 \times 27 \times 37 \times 43$?

Sol:- If we divide the above expression by 100, we will get the last two digits as remainder.

$\Rightarrow rem(\frac{22 \times 31 \times 44 \times 27 \times 37 \times 43}{100})$,

dividing by 4 to make it simple

$= rem(\frac{22 \times 31 \times 11 \times 27 \times 37 \times 43}{25})$

$= rem(\frac{132 \times 22 \times 216}{25})$

$= rem(\frac{7 \times 22 \times 16}{25}) \Rightarrow rem(\frac{4 \times 16}{25})$

$= rem(\frac{14}{25}) = 14$

Since we had divided by 4 initially now to get the correct answer, we need to multiply the remainder by 4.

So remainder will be $14 \times 4 = 56$, which will also be the last two digits of the expression.

Variety Questions

Q.1. A six-digit number 11p9q4 is divisible by 24. Then the greatest possible value for pq is:
SSC CGL Tier II (26/10/2023)
(a) 56 (b) 68 (c) 42 (d) 32

Q.2. The remainder of the term $9 + 9^2 + \ldots\ldots\ldots + 9^{(2n+1)}$ when divided by 6 is:
SSC CHSL 11/08/2023 (4th Shift)
(a) 1 (b) 4 (c) 2 (d) 3

Q.3. Two numbers, when divided by a certain divisor, leave the remainder 57. When sum of the two numbers is divided by the same divisor, the remainder is 49. The divisor is:
SSC CHSL 08/08/2023 (3rd Shift)
(a) 56 (b) 57 (c) 49 (d) 65

Q.4. In a division sum, the divisor is 11 times the quotient and 5 times the remainder. If the remainder is 44, then the dividend is:
SSC CHSL 07/08/2023 (4th Shift)
(a) 8888 (b) 4448 (c) 8444 (d) 4444

Q.5. What is the least value of x + y, if 10 digit number 780x533y24 is divisible by 88 ?
SSC CHSL 03/08/2023 (4th Shift)
(a) 4 (b) 3 (c) 1 (d) 2

Q.6. During a division, Pranjal mistakenly took as the dividend a number that was 10% more than the original dividend. He also mistakenly took as the divisor a number that was 25% more than the original divisor. If the correct quotient of the original division problem was 25 and the remainder was 0, what was the quotient that Pranjal obtained, assuming his calculations had no error ?
SSC CGL 17/07/2023 (4th shift)
(a) 21.75 (b) 21.25 (c) 28.75 (d) 22

Q.7. The six-digit number 7x1yyx is a multiple of 33 for non-zero digits x and y. Which of the following could be a possible value of (x + y) ?
Matriculation Level 30/06/2023 (Shift - 4)
(a) 5 (b) 4 (c) 2 (d) 3

Q.8. A girl wants to plant trees in her garden in rows in such a way that the number of trees in each row to be the same. There are 10 rows and the number of trees in each row is 12, what is the number of trees in each row, if there are 5 more rows ?
SSC MTS 17/05/2023 (Evening)
(a) 10 (b) 8 (c) 6 (d) 12

Q.9. What is the total number of factors of the number 720 except 1 and the number itself?
SSC CHSL 10/03/2023 (4th Shift)
(a) 29 (b) 27 (c) 32 (d) 28

Q.10. Which of the following is the smallest among $(14)^{\frac{1}{3}}$, $(12)^{\frac{1}{2}}$, $(16)^{\frac{1}{6}}$ & $(25)^{\frac{1}{12}}$?
SSC CHSL 10/03/2023 (3rd Shift)
(a) $(14)^{\frac{1}{3}}$ (b) $(25)^{\frac{1}{12}}$ (c) $(16)^{\frac{1}{6}}$ (d) $(12)^{\frac{1}{2}}$

Q.11. Which of the following statements is correct ?
I.The Value of $100^2 - 99^2 + 98^2 - 97^2 + 96^2 - 95^2 + 94^2 - 93^2 + \ldots\ldots + 22^2 - 21^2$ is 4840.
II. The value of $(K^2 + \frac{1}{K^2})(K - \frac{1}{K})(K^4 + \frac{1}{K^4})(K + \frac{1}{K})(K^4 - \frac{1}{K^4})$ is $K^{16} - \frac{1}{K^{16}}$
SSC CGL 13/12/2022 (3rd Shift)
(a) Neither I nor II (b) Both I and II
(c) Only II (d) Only I

Q.12. If the seven-digit number 52A6B7C is divisible by 33, and A, B, C are primes, then the maximum value of 2A+3B+C is:
SSC CGL 12/12/2022 (3rd Shift)
(a) 32 (b) 23 (c) 27 (d) 34

Q.13. If the 9 - digit number 83P93678Q is divisible by 72, then what is the value of $\sqrt{P^2 + Q^2 + 12}$?
SSC CGL 05/12/2022 (4th Shift)
(a) 6 (b) 7 (c) 8 (d) 9

Q.14. In a test (+ 5) marks are given for every correct answer and (−2) marks are given for every incorrect answer. Jay answered all the questions and scored (−12) marks, though he got 4 correct answers. How many of his answers were INCORRECT ?
SSC CPO 11/11/2022 (Evening)
(a) 8 (b) 32 (c) 16 (d) 20

Q.15. What is the sum of all the common terms between the given series S1 and S2 ?
S1 = 2, 9, 16, ……., 632
S2 = 7, 11, 15, ……., 743
SSC CGL Tier II (08/08/2022)
(a) 6974 (b) 6750 (c) 7140 (d) 6860

Q.16. If the 7 - digit number x8942y4 is divisible by 56, what is the value of $(x^2 + y)$ for the largest value of y, where x and y are natural numbers?
SSC CGL 11/04/2022 (Evening)
(a) 33 (b) 44 (c) 55 (d) 70

Q.17. Let p, q, r and s be positive natural numbers having three exact factors

including 1 and the number itself If q > p and both are two-digit numbers, and r > s and both are one-digit numbers, then the value of the expression $\frac{p-q-1}{r-s}$ is:
SSC CGL Tier II (03/02/2022)
(a) - s - 1 (b) s - 1 (c) 1 - s (d) s + 1

Q.18. Three fractions x, y and z are such that x > y > z. When the smallest of them is divided by the greatest, the result is $\frac{9}{16}$ which exceeds y by 0.0625. If x + y + z = $2\frac{3}{12}$, then what is the value of x + z ?
SSC CGL Tier II (29/01/2022)
(a) $\frac{5}{4}$ (b) $\frac{1}{4}$ (c) $\frac{7}{4}$ (d) $\frac{3}{4}$

Q.19. The six-digit number 537xy5 is divisible by 125. How many such six - digit numbers are there?
SSC CHSL 19/04/2021 (Morning)
(a) 4 (b) 2 (c) 3 (d) 5

Q.20. How many numbers between 400 and 700 are divisible by 5, 6 and 7 ?
SSC CPO 24/11/2020 (Evening)
(a) 2 (b) 5 (c) 10 (d) 20

Q.21. Find the number of prime factors in the product $(30)^5 \times (24)^5$.
SSC CGL Tier II (18/11/2020)
(a) 45 (b) 35 (c) 10 (d) 30

Q.22. Let ab, a ≠ b, is a 2-digit prime number such that ba is also a prime number. The sum of all such number is:
SSC CGL Tier II (16/11/2020)
(a) 374 (b) 418 (c) 407 (d) 396

Q.23. Given that 2^{20} + 1 is completely divisible by a whole number. Which of the following is completely divisible by the same number ?
SSC CHSL 16/10/2020 (Afternoon)
(a) 2^{15} + 1 (b) 5 × 2^{30}
(c) 2^{90} + 1 (d) 2^{60} + 1

Q.24. Which of the following numbers will completely divide $7^{81} + 7^{82} + 7^{83}$?
SSC CHSL 17/03/2020 (Morning)
(a) 399 (b) 389 (c) 387 (d) 397

Q.25. When a positive integer is divided by d, the remainder is 15. When ten times of the same number is divided by d, the remainder is 6. The least possible value of d is:
SSC CGL 05/03/2020 (Afternoon)
(a) 9 (b) 12 (c) 16 (d) 18

Q.26. When 200 is divided by a positive integer x, the remainder is 8. How many values of x are there?
SSC CGL 03/03/2020 (Afternoon)
(a) 7 (b) 5 (c) 8 (d) 6

Q.27. The number 1563241234351 is :
SSC CPO 13/12/2019 (Evening)
(a) divisible by both 3 and 11
(b) divisible by 11 but not by 3
(c) neither divisible by 3 nor by 11
(d) divisible by 3 but not by 11

Q.28. How many natural numbers less than 1000 are divisible by 5 or 7 but NOT by 35 ?
SSC CPO 11/12/2019 (Morning)
(a) 285 (b) 313 (c) 341 (d) 243

Q.29. If r is the remainder when each of 4749, 5601 and 7092 is divided by the greatest possible number d (> 1), then the value of (d + r) will be:
SSC CPO 11/12/2019 (Morning)
(a) 276 (b) 271 (c) 298 (d) 282

Q.30. Let x be the least 4-digit number which when divided by 2, 3, 4, 5, 6 and 7 leaves a remainder of 1 in each case. If x lies between 2800 and 3000, then what is the sum of digits of x ?
SSC CPO 09/12/2019 (Evening)
(a) 15 (b) 16 (c) 12 (d) 13

Q.31. If the six digit number 479xyz is exactly divisible by 7, 11 and 13 , then {(y + z) ÷ x} is equal to :
SSC CPO 09/12/2019 (Morning)
(a) $\frac{11}{9}$ (b) 4 (c) $\frac{13}{7}$ (d) $\frac{7}{13}$

Q.32. Which among the following is the smallest?
SSC CPO 09/12/19 (Morning)
(a) √401 - √399 (b) √101 - √99
(c) √301 - √299 (d) √201 - √199

Q.33. If x is the remainder when 3^{61284} is divided by 5 and y is the remainder when 4^{96} is divided by 6, then what is the value of (2x - y) ?
SSC CGL Tier II (13/09/2019)
(a) - 4 (b) 4 (c) -2 (d) 2

Q.34. In finding the HCF of two numbers by division method, the last divisor is 17 and the quotients are 1, 11 and 2, respectively. What is the sum of the two numbers ?
SSC CGL Tier II (13/09/2019)
(a) 833 (b) 867 (c) 816 (d) 901

Q.35. Two positive numbers differ by 2001. When the larger number is divided by the smaller number, the quotient is 9 and the remainder is 41. The sum of the digits of the larger number is :
SSC CGL Tier II (13/09/2019)
(a) 15 (b) 11 (c) 10 (d) 14

Q.36. When a two-digit number is multiplied by the sum of its digits, the product is 424. When the number obtained by interchanging its digits is multiplied by the sum of the digits, the result is 280. The sum of the digits of the given number is :
SSC CGL Tier II (12/09/2019)
(a) 6 (b) 9 (c) 8 (d) 7

Q.37. Let x be the least number which when divided by 15,18,20 and 27, the remainder in each case is 10 and x is a multiple of 31. What least number should be added to x to make it a perfect square ?
SSC CGL Tier II (12/09/2019)
(a) 39 (b) 37 (c) 43 (d) 36

Q.38. The number of factors of 3600 is :
SSC CGL Tier II (12/09/2019)
(a) 45 (b) 44 (c) 43 (d) 42

Q.39. When 12, 16, 18, 20 and 25 divide the least number x, the remainder in each case is 4 but x is divisible by 7. What is the digit at the thousands' place in x ?
SSC CGL Tier II (11/09/2019)
(a) 5 (b) 8 (c) 4 (d) 3

Q.40. One of the factors of $(8^{2k} + 5^{2k})$, where k is an odd number, is :
SSC CGL Tier II (11/09/2019)
(a) 86 (b) 88 (c) 84 (d) 89

Q.41. Let x = $(633)^{24} - (277)^{38} + (266)^{54}$ What is the unit digit of x ?
SSC CGL Tier II (11/09/2019)
(a) 7 (b) 6 (c) 4 (d) 8

Q.42. The sum of the digits of a two-digit number is $\frac{1}{7}$ of the number. The unit digit is 4 less than the tens digit. If the number obtained on reversing its digit is divided by 7, the remainder will be :
SSC CGL Tier II (11/09/2019)
(a) 4 (b) 5 (c) 1 (d) 6

Q.43. When 6892, 7105 and 7531 are divided by the greatest number x, then the remainder in each case is y. What is the value of (x - y) ?
SSC MTS 22/08/2019 (Afternoon)
(a) 123 (b) 137 (c) 147 (d) 113

Q.44. Let x be the greatest number which when divides 6475, 4984 and 4132, the remainder in each case is the same. What is the sum of digits of x?
SSC MTS 22/08/2019 (Morning)
(a) 4 (b) 7 (c) 5 (d) 6

Q.45. When an integer n is divided by 8, the remainder is 3. What will be the remainder if 6n - 1 is divided by 8 ?
SSC CGL 13/06/2019 (Evening)

(a) 4 (b) 1 (c) 0 (d) 2

Q.46. If a 11 digit number 5y5884805x6 is divisible by 72, where x = y, then the value of $\sqrt{xy}$ is :
SSC CGL 10/06/2019 (Morning)
(a) $\sqrt{7}$ (b) 3 (c) 7 (d) $2\sqrt{7}$

Q.47. A gardener planted 1936 saplings in a garden such that there were as many rows of saplings as the columns. The number of rows planted is :
SSC CPO 16/03/2019 (Afternoon)
(a) 46 (b) 44 (c) 48 (d)42

Q.48. What is the difference between the largest and smallest numbers of the four digits created using numbers 2, 9, 6, 5 ? (Each number can be used only once)
SSC CPO 14/03/2019 (Evening)
(a) 6993 (b) 7056 (c) 6606 (d) 7083

Q.49. The sum of all possible three digit numbers formed by digits 3, 0 and 7, using each digit only once is:
SSC CPO 14/03/2019 (Morning)
(a) 2010 (b) 1990 (c) 2220 (d) 2110

Q.50. What is the sum of digits of the least number, which when divided by 15, 18 and 42 leaves the same remainder 8 in each case and is also divisible by 13 ?
SSC CPO 13/03/2019 (Evening)
(a) 25 (b) 24 (c) 22 (d) 26

Q.51. The square root of which of the following is a rational number ?
SSC CPO 12/03/2019 (Morning)
(a) 1250.49 (b) 6250.49
(c) 1354.24 (d) 5768.28

Q.52. What is the sum of the digits of the least number, which when divided by 12 , 16 and 54, leaves the same remainder 7 in each case and is also completely divisible by 13 ?
SSC CPO 12/03/2019 (Evening)
(a) 36 (b) 16 (c) 9 (d) 27

Practice Questions

SSC CHSL 2023 Tier - 1

Q.53. Which of the following is the nearest number to 13051 and is divisible by 9 ?
SSC CHSL 02/08/2023 (3rd Shift)
(a) 13057 (b) 13056 (c) 13059 (d) 13058

Q.54. A Number when divided by 78 gives the quotient 280 and the remainder 0. If the same number is divided by 65, what will be the value of the remainder ?
SSC CHSL 02/08/2023 (4th Shift)
(a) 1 (b) 3 (c) 0 (d) 2

Q.55. The divisor is 10 times the quotient and 5 times the remainder in a division sum. What is the dividend if the remainder is 46 ?
SSC CHSL 03/08/2023 (2nd Shift)
(a) 5972 (b) 4286 (c) 4874 (d) 5336

Q.56. What is the largest five digit number exactly divisible by 88 ?
SSC CHSL 04/08/2023 (1st Shift)
(a) 99992 (b) 99986 (c) 99984 (d) 99968

Q.57. What is the least number that must be added to the greatest 6-digit number so that the sum will be exactly divisible by 294 ?
SSC CHSL 07/08/2023 (2nd Shift)
(a) 234 (b) 194 (c) 269 (d) 189

Q.58. Which of the following sets is such that all its elements are divisors of the number 2520 ?
SSC CHSL 08/08/2023 (1st Shift)
(a) 12, 49, 18 (b) 8 , 9, 7
(c) 16, 15, 14 (d) 21, 10, 25

Q.59. What is the remainder when 3^8 is divided by 7 ?
SSC CHSL 08/08/2023 (2nd Shift)
(a) 5 (b) 4 (c) 6 (d) 2

Q.60. If 7 divides the integer n, then the remainder is 2. What will be the remainder if 9n is divided by 7 ?
SSC CHSL 09/08/2023 (1st Shift)
(a) 3 (b) 5 (c) 1 (d) 4

Q.61. What will be the greatest number 32a78b, which is divisible by 3 but NOT divisible by 9 ? (Where a and b are single digit numbers).
SSC CHSL 09/08/2023 (2nd Shift)
(a) 324781 (b) 329787
(c) 326787 (d) 329784

Q.62. The sum of the cubes of two given numbers is 10234, while the sum of the two given numbers is 34. What is the positive difference between the cubes of the two given numbers ?
SSC CHSL 11/08/2023 (1st Shift)
(a) 3484 (b) 3488 (c) 3356 (d) 8602

Q.63. If a 10-digit number 620x976y52 is divisible by 88, then the least value of $(x^2 + y^2)$ will be:
SSC CHSL 14/08/2023 (3rd Shift)
(a) 8 (b) 7 (c) 11 (d) 10

Q.64. The six-digit number N = 4a6b9c is divisible by 99, then the maximum sum of the digits of N is:
SSC CHSL 17/08/2023 (1st Shift)
(a) 18 (b) 36 (c) 45 (d) 27

SSC CGL 2023 Tier - 1

Q.65. What will be the remainder when $(265)^{4081} + 9$ is divided by 266 ?
SSC CGL 14/07/2023 (1st shift)
(a) 8 (b) 6 (c) 1 (d) 9

Q.66. A and B have some toffees. If A gives one toffee to B, then they have an equal number of toffees. If B gives one toffee to A, then the toffees with A are double with B. The total number of toffees with A and B are _____.
SSC CGL 14/07/2023 (3rd shift)
(a) 12 (b) 10 (c) 14 (d) 15

Q.67. Find the smallest number that can be subtracted from 148109326 so that it becomes divisible by 8.
SSC CGL 17/07/2023 (1st shift)
(a) 4 (b) 8 (c) 6 (d) 10

Q.68. The largest 5-digit number exactly divisible by 88 is:
SSC CGL 17/07/2023 (2nd shift)
(a) 99990 (b) 99984 (c) 99978 (d) 99968

Q.69. Find the sum of $3 + 3^2 + 3^3 + ... + 3^8$.
SSC CGL 17/07/2023 (2nd shift)
(a) 6561 (b) 6560 (c) 9840 (d) 3280

Q.70. How many of the following numbers are divisible by 132 ?
660, 754, 924, 1452, 1526, 1980, 2045 and 2170
SSC CGL 17/07/2023 (3rd shift)
(a) 3 (b) 6 (c) 5 (d) 4

Q.71. A six - digit number is divisible by 33. If 54 is added to the number, then the new number formed will also be divisible by :
SSC CGL 17/07/2023 (4th shift)
(a) 3 (b) 2 (c) 5 (d) 7

Q.72. Which of the following numbers is divisible by 24 ?
SSC CGL 18/07/2023 (1st shift)
(a) 52668 (b) 49512 (c) 64760 (d) 26968

Q.73. The cost of 32 pens and 12 pencils is ₹790. What is the total cost (in ₹) of 8 pens and 3 pencils together?
SSC CGL 18/07/2023 (2nd shift)
(a) 200.5 (b) 197.5 (c) 180.5 (d) 220.5

Q.74. The smallest number added to 888 so that it is exactly divisible by 35 is :
SSC CGL 18/07/2023 (3rd shift)
(a) 22 (b) 23 (c) 20 (d) 21

Q.75. An 11-digit number 7823326867X is divisible by 18. What is the value of X?
SSC CGL 19/07/2023 (1st shift)
(a) 6 (b) 4 (c) 8 (d) 2

Q.76. Part One While solving a problem, Suhas by mistake took a number as dividend which was 10% less than the original dividend. He also mistakenly took a number as the quotient which was 20% less than the original quotient. If the correct quotient of the original question of division was 24 and the remainder was 0, then assuming that there was no error in his calculation, what was the quotient obtained by Suhas?
SSC CGL 19/07/2023 (1st shift)
(a) 27 (b) 21.6 (c) 26.4 (d) 30

Q.77. Which of the following numbers is divisible by 36 ?
SSC CGL 19/07/2023 (1st shift)
(a) 8840 (b) 1542 (c) 96272 (d) 55512

Q.78. The sum of the two numbers is 98. The difference between the two numbers is 28, Find one of the two numbers.
SSC CGL 19/07/2023 (3rd shift)
(a) 32 (b) 62 (c) 58 (d) 35

Q.79. Which of the numbers 9592450, 9592330, 9592885 and 9592741 is divisible by 11 ?
SSC CGL 19/07/2023 (3rd shift)
(a) 9592885 (b) 9592741
(c) 9592450 (d) 9592330

Q.80. When m is divided by 7, the remainder is 5. When 3m is divided by 7, the remainder is:
SSC CGL 19/07/2023 (4th shift)
(a) 3 (b) 2 (c) 1 (d) 0

Q.81. What is the sum of the divisors of 484 that are perfect squares?
SSC CGL 20/07/2023 (1st shift)
(a) 125 (b) 35 (c) 610 (d) 13

Q.82. The square of 72 is equal to the product of 216 and a number. Find the number.
SSC CGL 20/07/2023 (3rd shift)
(a) 35 (b) 18 (c) 24 (d) 48

Q.83. Which number among 34936, 35508, 35580 and 36508 is divisible by 33 ?
SSC CGL 20/07/2023 (4th shift)
(a) 35508 (b) 35580 (c) 36508 (d) 34936

Q.84. Find the value of a to make 6234a6 divisible by 9.
SSC CGL 21/07/2023 (4th shift)
(a) 8 (b) 7 (c) 10 (d) 6

Q.85. What is the smallest number which can be added to 9454351626 so that it becomes divisible by 11 ?
SSC CGL 21/07/2023 (4th shift)
(a) 1 (b) 6 (c) 5 (d) 4

Q.86. Find the remainder when $8^8 + 6$ is divided by 7.
SSC CGL 25/07/2023 (1st shift)
(a) 0 (b) 2 (c) 3 (d) 1

Q.87. In a division sum, the divisor is 13 times the quotient and 6 times the remainder. If the remainder is 39, then the dividend is:
SSC CGL 25/07/2023 (1st shift)
(a) 4240 (b) 4576 (c) 4251 (d) 4800

Q.88. Which of the following numbers is divisible by 99?
SSC CGL 25/07/2023 (2nd shift)
(a) 31548 (b) 60687 (c) 44775 (d) 84456

Q.89. What is the remainder when $(x^{17} + 1)$ is divided by (x + 1) ?
SSC CGL 25/07/2023 (3rd shift)
(a) x (b) x – 1 (c) 0 (d) 1

Q.90. A four-digits number abba is divisible by 4 and a < b. How many such numbers are there?
SSC CGL 26/07/2023 (1st shift)
(a) 10 (b) 8 (c) 12 (d) 6

Q.91. A 9 - digit number 846523X7Y is divisible by 9, and Y - X = 6. Find the value of $\sqrt{2X + 4Y}$.
SSC CGL 26/07/2023 (2nd shift)
(a) 4 (b) 2 (c) 6 (d) 8

Q.92. When a number is divided by 45, the remainder is 21. What will be the remainder when the number is divided by 15 ?
SSC CGL 26/07/2023 (3rd shift)
(a) 6 (b) 5 (c) 3 (d) 0

Q.93. Which of the following is the smallest 5 - digits number that is exactly divisible by 526 ?
SSC CGL 27/07/2023 (1st shift)
(a) 10520 (b) 11046 (c) 10516 (d) 10426

Q.94. A 6 - digit number has digits as consecutive natural numbers. The number is always divisible by ____.
SSC CGL 27/07/2023 (2nd shift)
(a) 4 (b) 5 (c) 2 (d) 3

Q.95. How many of the following numbers are divisible by 3 but NOT by 9 ?
5826, 5964, 6039, 6336, 6489, 6564, 6867 and 6960
SSC CGL 27/07/2023 (3rd shift)
(a) 5 (b) 3 (c) 4 (d) 6

Q.96. Which number among 11368, 11638, 11863 and 12638 is divisible by 11 ?
SSC CGL 27/07/2023 (3rd shift)
(a) 11368 (b) 12638 (c) 11638 (d) 11863

SSC Selection Post (Phase - XI)

Q.97. Find the least value of K for which 7864K3 is divisible by 7.
Graduate Level 27/06/2023 (Shift - 4)
(a) 4 (b) 5 (c) 2 (d) 1

Q.98. If the seven digit number 965x475 is divisible by 9, then the value of x is:
Graduate Level 28/06/2023 (Shift - 3)
(a) 0 (b) 6 (c) 2 (d) 3

Q.99. Which of the following is a prime number ?
Graduate Level 30/06/2023 (Shift - 1)
(a) 161 (b) 171 (c) 193 (d) 177

Q.100. Mohan divides 18935 by a certain number. If the quotient and the remainder he gets are 102 and 65, respectively, then the divisor is:
Higher Secondary 27/06/2023 (Shift - 3)
(a) 155 (b) 165 (c) 175 (d) 185

Q.101. Find the least value of '@' to make the number7@5471perfectly divisible by 9.
Higher Secondary 28/06/2023 (Shift - 2)
(a) 6 (b) 1 (c) 3 (d) 4

Q.102. What is the least value of * so that the number 457643*4 is divisible by 18 ?
Higher Secondary 28/06/2023 (Shift - 2)
(a) 9 (b) 3 (c) 4 (d) 5

Q.103. Which of the following numbers will completely divide $(6^{61}+6^{62}+6^{63}+6^{64})$?
Higher Secondary 30/06/2023 (Shift - 2)
(a) 10 (b) 13 (c) 7 (d) 11

Q.104. Which of the following is perfectly divisible by 11 ?
Higher Secondary 30/06/2023 (Shift - 2)
(a) 57464054 (b) 57464044
(c) 57463822 (d) 57463823

Q.105. Which of the following numbers is NOT divisible by 72 ?
Matriculation Level 27/06/2023 (Shift - 1)
(a) 359784 (b) 426816
(c) 486280 (d) 754344

Q.106. The sum of two numbers 10373 + 24871 is divisible by :
Matriculation Level 27/06/2023 (Shift - 1)
(a) 7 (b) 8 (c) 6 (d) 13

Q.107. What is the remainder when 4^{999} is divided by 7 ?
Matriculation Level 27/06/2023 (Shift - 2)
(a) 2 (b) 4 (c) 1 (d) 3

Q.108. The number 974581297426 is divisible by :
Matriculation Level 28/06/2023 (Shift - 4)
(a) 6 (b) 11 (c) 4 (d) 9

Q.109. Which of the following numbers is divisible by 120 ?
Matriculation Level 28/06/2023 (Shift - 4)
(a) 170280 (b) 140240
(c) 156200 (d) 170360

Q.110. When 151314 is divided by 15, the remainder is:
Matriculation Level 30/06/2023 (Shift - 3)
(a) 11 (b) 6 (c) 9 (d) 7

Q.111. Which of the following numbers is divisible by 12 ?
Matriculation Level 30/06/2023 (Shift - 4)
(a) 5409844 (b) 4298123
(c) 4512984 (d) 3215678

SSC CHSL 2022 Tier - 2

Q.112. How many whole numbers lie between 11^2 and 12^2 ?
SSC CHSL Tier II (26/06/2023)
(a) 23 (b) 24 (c) 21 (d) 22

Q.113. A number is divisible by 3 only when:
SSC CHSL Tier II (26/06/2023)
(a) the difference of the sum of the odd and the even digits is divisible by 3
(b) the sum of its digits is divisible by 3
(c) the last digit is either 0 or an even number
(d) the last two digits are divisible by 3

SSC MTS 2022 Tier - 1

Q.114. What is the smallest three - digit number which when divided by 2, 3 and 4 leaves remainder 1 in each case ?
SSC MTS 19/05/2023 (Evening)
(a) 111 (b) 105 (c) 101 (d) 109

Q.115. Which is the smallest three-digit number which when increased by 5 becomes divisible by both 2 and 3 ?
SSC MTS 13/06/2023 (Morning)
(a) 102 (b) 105 (c) 103 (d) 108

SSC CHSL 2022 Tier - 1

Q.116. What is the value of the expression 1 - 2 + 3 - 4 + 5 - 6 ..... to 100 terms ?
SSC CHSL 09/03/2023 (2nd Shift)
(a) - 50 (b) - 55 (c) - 49 (d) - 60

Q.117. If 5A72B is divisible by 11, then what is the value of B - A ?
SSC CHSL 09/03/2023 (3rd Shift)
(a) 3 (b) 2 (c) 1 (d) 4

Q.118. How many terms of the series - 9, - 6, - 3, ...must be taken so that the sum of all the terms is 45 ?
SSC CHSL 10/03/2023 (1st Shift)
(a) 11 (b) 8 (c) 10 (d) 9

Q.119. What is the sum of the first 200 terms of the given series?
1 + 5 + 6 + 10 + 11 + 15 + 16 + 20 +.....
SSC CHSL 10/03/2023 (1st Shift)
(a) 49400 (b) 49600 (c) 50100 (d) 48300

Q.120. How many prime numbers are there between 20 and 50?
SSC CHSL 10/03/2023 (2nd Shift)
(a) 8 (b) 5 (c) 6 (d) 7

Q.121. The sum of three consecutive even numbers is 126. What is the product of the smallest and the largest numbers ?
SSC CHSL 10/03/2023 (3rd Shift)
(a) 1840 (b) 1950 (c) 1760 (d) 1620

Q.122. If a number 2x64y is completely divisible by 88, then what is the value of 6x - 5y ?
SSC CHSL 10/03/2023 (4th Shift)
(a) - 34 (b) - 40 (c) 18 (d) 38

Q.123. What is the sum of all three digit numbers which are divisible by 15 ?
SSC CHSL 13/03/2023 (2nd Shift)
(a) 32850 (b) 36825 (c) 41200 (d) 28750

Q.124. How many composite numbers are there between 23 and 43 ?
SSC CHSL 14/03/2023 (1st Shift)
(a) 7 (b) 14 (c) 15 (d) 18

Q.125. What is the value of the expression 1 - 7 + 2 - 8 + 3 - 9 + 4 - 10 +.... to 100 terms?
SSC CHSL 14/03/2023 (2nd Shift)
(a) - 200 (b) - 360 (c) - 300 (d) - 240

Q.126. If the sum of three consecutive composite numbers is 36. then what is the product of the three numbers?
SSC CHSL 14/03/2023 (3rd Shift)
(a) 1460 (b) 1750 (c) 1680 (d) 1820

Q.127. What are the last three digit of the multiplication 654321 × 123456 ?
SSC CHSL 14/03/2023 (4th Shift)
(a) 376 (b) 344 (c) 324 (d) 352

Q.128. What is the sum of all two digit even numbers?
SSC CHSL 15/03/2023 (1st Shift)
(a) 2520 (b) 2470 (c) 2430 (d) 2410

Q.129. If 7A425B is divisible by 36, then what is the value of A - B ?
SSC CHSL 15/03/2023 (2nd Shift)
(a) 0 (b) 5 (c) 1 (d) 2

Q.130. What is the total number of factors of the number 840 except 1 and the number itself ?
SSC CHSL 15/03/2023 (2nd Shift)
(a) 29 (b) 30 (c) 28 (d) 31

Q.131. XY7B is a 4 digit number divisible by 4. What is the largest value of B ?
SSC CHSL 15/03/2023 (3rd Shift)
(a) 6 (b) 2 (c) 8 (d) 0

Q.132. How many numbers are there from 17 to 457 which are divisible by both 5 and 3 ?
SSC CHSL 16/03/2023 (2nd Shift)
(a) 29 (b) 35 (c) 30 (d) 33

Q.133. The product of two consecutive prime numbers is 7387. What is the difference between the two numbers ?
SSC CHSL 16/03/2023 (2nd Shift)
(a) 3 (b) 6 (c) 2 (d) 4

Q.134. If the 4-digit number 48ab is divisible by 2, 5 and 7, then what is the value of (10a - b) ?
SSC CHSL 16/03/2023 (3rd Shift)
(a) 0 (b) 20 (c) 10 (d) 30

Q.135. How many numbers are there between 201 and 401 which are divisible by 5 but not by 4 ?
SSC CHSL 16/03/2023 (4th Shift)
(a) 30 (b) 20 (c) 40 (d) 45

Q.136. What is the sum of all two digit odd numbers ?
SSC CHSL 17/03/2023 (1st Shift)
(a) 2375 (b) 2475 (c) 2325 (d) 2425

Q.137. If the sum of a number and its reciprocal is 4, find the sum of their squares,
SSC CHSL 17/03/2023 (2nd Shift)
(a) 12 (b) 16 (c) 14 (d) 18

Q.138. What is the value of $98^2 - 97^2 + 96^2 - 95^2 + 94^2 - 93^2 +$ ..... $12^2 - 11^2$
SSC CHSL 17/03/2023 (4th Shift)
(a) 4725 (b) 4796 (c) 4851 (d) 4926

Q.139. What is the least possible value of p for which a number 84pp153p is divisible by 9 ?
SSC CHSL 20/03/2023 (2nd Shift)
(a) 2 (b) 1 (c) 7 (d) 5

Q.140. If the sum of squares of two real numbers is 12 and the product of the numbers is 4, find the difference between the numbers.
SSC CHSL 20/03/2023 (3rd Shift)
(a) 4 (b) 8 (c) 1 (d) 2

Q.141. If 73A215 is divisible by 11 and 56B26 is divisible by 9, then what is the value of A + B ?
SSC CHSL 20/03/2023 (4th Shift)
(a) 10 (b) 9 (c) 11 (d) 7

Q.142. What is the value of $4^2 - 3^2 + 6^2 - 5^2$

$+ 8^2 - 7^2 + ... 92^2 - 91^2$?
SSC CHSL 21/03/2023 (3rd Shift)
(a) 4272 (b) 4280 (c) 4278 (d) 4275

Q.143. Which of the following is largest among $(125)^{\frac{1}{6}}$, $(11)^{\frac{1}{3}}$, $(12)^{\frac{1}{6}}$, $(5)^{\frac{1}{4}}$?
SSC CHSL 21/03/2023 (3rd Shift)
(a) $(12)^{\frac{1}{6}}$ (b) $(11)^{\frac{1}{3}}$ (c) $(125)^{\frac{1}{6}}$ (d) $(5)^{\frac{1}{4}}$

Q.144. Which of the following statements is true?
I. $\frac{5}{11} > \frac{5}{6}$ II. $\frac{5}{9} > \frac{8}{9}$ III. $\frac{5}{6} > \frac{4}{5}$
SSC CHSL 21/03/2023 (4th Shift)
(a) Only III (b) Both I and II
(c) Only II (d) Only I

SSC CGL 2022 Tier - 2

Q.145. The number 5769116 is divisible by which of the following numbers?
SSC CGL Tier II (02/03/2023)
(a) 4 (b) 5 (c) 12 (d) 8

Q.146. The number 2918245 is divisible by which of the following numbers?
SSC CGL Tier II (03/03/2023)
(a) 3 (b) 11 (c) 12 (d) 9

SSC CGL 2022 Tier - 1

Q.147. Which of the following numbers is a divisor of $(49^{15} - 1)$?
SSC CGL 01/12/2022 (1st Shift)
(a) 46 (b) 14 (c) 8 (d) 50

Q.148. What will be the remainder when $27^{27} + 27$ is divided by 28 ?
SSC CGL 01/12/2022 (3rd Shift)
(a) 28 (b) 27 (c) 25 (d) 26

Q.149. If the 5-digit number 750PQ is divisible by 3, 7 and 11, then what is the value of P + 2Q ?
SSC CGL 01/12/2022 (4th Shift)
(a) 17 (b) 15 (c) 18 (d) 16

Q.150. In a class of students, the first student has 2 toffees, second has 4 toffees, third has 6 toffees and so on. If the number of students in the class is 25, then the total number of toffees are divisible by_____.
SSC CGL 02/12/2022 (2nd Shift)
(a) 5 and 7 (b) 5 and 13
(c) 11 and 13 (d) 7 and 11

Q.151. The difference of two numbers is 1564. After dividing the larger number by the smaller, we get 6 as quotient and 19 as remainder. What is the smaller number?
SSC CGL 02/12/2022 (3rd Shift)
(a) 456 (b) 287 (c) 623 (d) 309

Q.152. The nearest number which is greater to 87501, and is completely divisible by 765 is :
SSC CGL 03/12/2022 (1st Shift)
(a) 88975 (b) 87975
(c) 87966 (d) 87775

Q.153. A number when divided by 7 leaves the remainder of 4. If the square of the same number is divided by 7, then what is the remainder?
SSC CGL 03/12/2022 (3rd Shift)
(a) 3 (b) 1 (c) 4 (d) 2

Q.154. If the 8 - digit number 123456xy is divisible by 8, then the total possible pairs of (x , y) are:
SSC CGL 03/12/2022 (4th Shift)
(a) 8 (b) 13 (c) 10 (d) 11

Q.155. Which of the following pairs of non-zero values of p and q make 6 - digit number 674pq0 divisible by both 3 and 11?
SSC CGL 05/12/2022 (1st Shift)
(a) p = 2 and q = 2 (b) p = 5 and q = 4
(c) p = 4 and q = 2 (d) p = 5 and q = 2

Q.156. On dividing a certain number by 363, we get 17 as the remainder. What will be the remainder when the same number is divided by 11 ?
SSC CGL 05/12/2022 (2nd Shift)
(a) 7 (b) 8 (c) 6 (d) 9

Q.157. The largest five-digit number which when divided by 7, 9 and 11, leaves the same remainder as 3 in each case, is:
SSC CGL 05/12/2022 (2nd Shift)
(a) 95840 (b) 98685 (c) 96720 (d) 99795

Q.158. Find the greatest number that will divide 49, 147 and 322 to leave the same remainder in each case.
SSC CGL 06/12/2022 (1st Shift)
(a) 9 (b) 5 (c) 7 (d) 8

Q.159. A number n when divided by 6, leaves a remainder 3. What will be the remainder when $(n^2 + 5n + 8)$ is divided by 6 ?
SSC CGL 06/12/2022 (1st Shift)
(a) 1 (b) 3 (c) 5 (d) 2

Q.160. If a number K = 42 × 25 × 54 × 135 is divisible by 3^a, then find the maximum value of a.
SSC CGL 07/12/2022 (1st Shift)
(a) 6 (b) 7 (c) 4 (d) 5

Q.161. 9435 is added to 7593, then 2607 is subtracted from the sum. The result is divisible by:
SSC CGL 07/12/2022 (3rd Shift)
(a) 4 (b) 10 (c) 3 (d) 5

Q.162. 7 is added to a certain number and the sum is multiplied by 5. The product is then divided by 3 and 4 is subtracted from the quotient. If the result comes to 16, then what is the original number?
SSC CGL 08/12/2022 (3rd Shift)
(a) 3 (b) 1 (c) 5 (d) 4

Q.163. If 7 - digit number 678p37q is divisible by 75 and p is not a composite, then the values of p and q are:
SSC CGL 08/12/2022 (4th Shift)
(a) p = 5, q = 5 (b) p = 3, q = 0
(c) p = 3, q = 5 (d) p = 2, q = 5

Q.164. The least number that should be added to 35460 so that the sum is exactly divisible by 3, 4, 5 and 7 is:
SSC CGL 12/12/2022 (1st Shift)
(a) 84 (b) 420 (c) 240 (d) 180

Q.165. Any six - digit number that is formed by repeating a three-digit number, is always divisible by:
SSC CGL 12/12/2022 (2nd Shift)
(a) 111 (b) 1001 (c) 19 (d) 101

Q.166. Choose the option in which the numbers are in correct ascending order.
SSC CGL 13/12/2022 (2nd Shift)
(a) $\frac{4}{5}, \frac{2}{3}, \frac{1}{11}$ and $\frac{2}{9}$
(b) $\frac{1}{11}, \frac{2}{9}, \frac{2}{3}$ and $\frac{4}{5}$
(c) $\frac{2}{9}, \frac{1}{11}, \frac{4}{5}$ and $\frac{2}{3}$
(d) $\frac{2}{3}, \frac{4}{5}, \frac{1}{11}$ and $\frac{2}{9}$

Q.167. The sum of two numbers is 680. If the bigger number is decreased by 15% and the smaller number is increased by 15%, then the resultant numbers are equal. Find the smaller number.
SSC CGL 13/12/2022 (2nd Shift)
(a) 307 (b) 289
(c) 291 (d) 304

Q.168. A four-digit pin, say abcd, of a lock has different non-zero digits. The digits satisfy b = 2a, c = 2b, d = 2c. The pin is divisible by _____.
SSC CGL 13/12/2022 (2nd Shift)
(a) 2, 3, 5 (b) 2, 3, 7
(c) 2, 3, 13 (d) 2, 3, 11

Q.169. If the nine-digit number 3422213AB is divisible by 99, then what is the value of 2A + B ?
SSC CGL 13/12/2022 (4th Shift)
(a) 11 (b) 12 (c) 10 (d) 13

SSC CPO 2022 Tier - 1

Q.170. A number, when divided by 15 and 18 every time, leaves 3 as a remainder, the least possible number is:
SSC CPO 09/11/2022 (Morning)
(a) 83 (b) 103 (c) 39 (d) 93

Q.171. The number of factors of 196 which are divisible by 4 is:
SSC CPO 09/11/2022 (Afternoon)
(a) 228 (b) 4 (c) 57 (d) 3

Q.172. Find the sum of the numbers between 550 and 700 such that when they are divided by 12, 16 and 24, leave remainder 5 in each case.
SSC CPO 09/11/2022 (Evening)
(a) 1980 (b) 1887 (c) 1860 (d) 1867

Q.173. If the 9 - digit number 72x8431y4 is divisible by 36, what is the value of $(\frac{x}{y} - \frac{y}{x})$ for the smallest possible value of y, given that x and y are natural numbers?
SSC CPO 09/11/2022 (Evening)
(a) $1\frac{5}{7}$ (b) $2\frac{1}{10}$ (c) $1\frac{2}{5}$ (d) $2\frac{9}{10}$

Q.174. The number 150328 is divisible by 23. If the digits are rearranged in descending order and five times of 13 is subtracted from the new number thus formed, then the resultant number will be divisible by:
SSC CPO 10/11/2022 (Morning)
(a) 3 (b) 5 (c) 11 (d) 2

Q.175. What are the values of R and M, respectively, if the given number is perfectly divisible by 16 and 11 ?
34R05030M6
SSC CPO 10/11/2022 (Morning)
(a) 4 and 6 (b) 7 and 5
(c) 5 and 5 (d) 5 and 7

Q.176. If the number 6336633P is divisible by 132, then the value of P is :
SSC CPO 10/11/2022 (Afternoon)
(a) 4 (b) 2 (c) 3 (d) 6

Q.177. If the number 476 ** 0 is divisible by both 3 and 11, then in the hundredth and tenth places, the non-zero digits are, respectively:
SSC CPO 10/11/2022 (Evening)
(a) 2 and 3 (b) 3 and 2
(c) 5 and 8 (d) 8 and 5

Q.178. If the 9 - digit number 97x4562y8 is divisible by 88, what is the value of (x^2 + y^2) for the smallest value of y, given that x and y are natural numbers?
SSC CPO 11/11/2022 (Morning)
(a) 64 (b) 68 (c) 76 (d) 80

Q.179. Ramu had to select a list of numbers between 1 and 1000 (including both), which are divisible by both 2 and 7. How many such numbers are there?
SSC CPO 11/11/2022 (Morning)
(a) 142 (b) 71 (c) 97 (d) 642

Q.180. The sum of the odd divisors of 216 is:
SSC CPO 11/11/2022 (Morning)
(a) 16 (b) 14 (c) 40 (d) 600

Q.181. A six - digit number is divisible by 198. If the digits are rearranged, even then the number will be divisible by:
SSC CPO 11/11/2022 (Afternoon)
(a) 3 (b) 6 (c) 2 (d) 66

Q.182. A six-digit number 763254 is divisible by 18. If we subtract five times of 41 from the number, then the new number which is formed will be divisible by:
SSC CPO 11/11/2022 (Afternoon)
(a) 2 (b) 7 (c) 5 (d) 3

Q.183. Two positive numbers differ by 3951. When the larger number is divided by the smaller number, the quotient is 12 and the remainder is 13. The sum of the digits of the larger number is:
SSC CPO 11/11/2022 (Evening)
(a) 12 (b) 16 (c) 18 (d) 14

SSC CGL 2021 Tier - 2

Q.184. If $\sqrt[3]{N}$ lies between 6 and 7, where N is an integer then how many values N can take?
SSC CGL Tier II (08/08/2022)
(a) 126 (b) 127 (c) 128 (d) 125

Q.185. If the digits of a two digit number is reversed, then the number is decreased by 36. Which of the following is correct regarding the number?
I. The difference of the digits is 4.
II. The value of number can be 84.
III. Number is always a composite number.
SSC CGL Tier II (08/08/2022)
(a) I, II and III (b) II and III
(c) I and III (d) I and II

Q.186. x, y and z are distinct prime numbers where x<y<z. If x + y + z = 70 , then what is the value of z ?
SSC CGL Tier II (08/08/2022)
(a) 29 (b) 43 (c) 31 (d) 37

Q.187. How many number are there from 400 to 700 in which the digit 6 occur exactly twice?
SSC CGL Tier II (08/08/2022)
(a) 19 (b) 18 (c) 21 (d) 20

Q.188. What is the sum of the first 20 terms of the following series ?
1 × 2 + 2 × 3 + 3 × 4 + 4 × 5 **.....**
SSC CGL Tier II (08/08/2022)
(a) 3160 (b) 2940 (c) 3240 (d) 3080

Q.189. What is the value of $\frac{7}{2} + \frac{11}{3} + \frac{7}{6} + \frac{11}{15} + \frac{7}{12} + \frac{11}{35} + ... + \frac{7}{156} + \frac{11}{575}$?
SSC CGL Tier II (08/08/2022)
(a) $\frac{3917}{355}$ (b) $\frac{3816}{325}$ (c) $\frac{3714}{345}$ (d) $\frac{3216}{315}$

SSC Selection Post (Phase - X)

Q.190. Which of the following is not a pair of co-prime numbers?
Graduate Level 01/08/2022 (Shift - 4)
(a) 22, 24 (b) 1, 4 (c) 3,7 (d) 21, 22

Q.191. The sum of three prime numbers is 90. If one of them exceeds another by 30, then one of the numbers is:
Graduate Level 05/08/2022 (Shift - 3)
(a) 41 (b) 67 (c) 47 (d) 59

Q.192. If 608xy0 is divisible by both 3 and 11, the nonzero digit in the hundred's place and ten's places, respectively, are:
Higher Secondary 02/08/2022 (Shift - 2)
(a) 5 and 6 (b) 5 and 8
(c) 8 and 5 (d) 6 and 5

Q.193. If the product 6352 × 7A1 is divisible by 12, then the value of A is:
Higher Secondary 03/08/2022 (Shift - 4)
(a) 6 (b) 3 (c) 5 (d) 4

Q.194. If the 5-digit number 743pq, is divisible by 90, then $\frac{q}{p}$ = ?
Higher Secondary 05/08/2022 (Shift - 2)
(a) 0 (b) 5 (c) 10 (d) 1

Q.195. Find the unit digit in $(14)^{112}$ + $(14)^{113}$
Higher Secondary 05/08/2022 (Shift - 2)
(a) 2 (b) 8 (c) 0 (d) 4

SSC MTS 2021 Tier - 1

Q.196. How many numbers are there between 200 and 400 that are divisible by both 6 and 5 ?
SSC MTS 05/07/2022 (Afternoon)
(a) 9 (b) 6 (c) 7 (d) 8

Q.197. Ishita can read a newspaper in 'n' minutes. What part of the newspaper can she read in 7 minutes? (n > 7)
SSC MTS 12/07/2022 (Morning)
(a) $\frac{n}{7}$ (b) $7n^2$ (c) 7n (d) $\frac{7}{n}$

Q.198. What is the smallest three - digit number which, when divided by 8 or 6, leaves a remainder of 1 in each case ?
SSC MTS 21/07/2022 (Morning)
(a) 121 (b) 119 (c) 123 (d) 125

Q.199. How many multiples of 7 are there between 100 and 200 ?
SSC MTS 22/07/2022 (Evening)
(a) 14 (b) 15 (c) 12 (d) 16

SSC CHSL 2021 Tier - 1

Q.200. What will be the smallest natural number to be filled in the blank for the number '23_45678' to be divisible by 22 ?
SSC CHSL 25/05/2022 (Morning)
(a) 7 (b) 1 (c) 9 (d) 3

Q.201. On dividing 8675123 by a certain number, the quotient is 33611 and the remainder is 3485. The divisor is _____.
SSC CHSL 25/05/2022 (Afternoon)
(a) 538 (b) 258 (c) 248 (d) 356

Q.202. The difference between a number and the square root of the number is 2. The number is:
SSC CHSL 26/05/2022 (Afternoon)
(a) 1 (b) 2 (c) 3 (d) 4

Q.203. Which of the following can be a rationalizing factor of $(\sqrt{2}+\sqrt{3}+\sqrt{5})$?
SSC CHSL 27/05/2022 (Afternoon)
(a) $(\sqrt{2}-\sqrt{3}-\sqrt{5})\sqrt{6}$
(b) $(\sqrt{2}+\sqrt{3}-\sqrt{5})\sqrt{6}$
(c) $(\sqrt{2}-\sqrt{3}+\sqrt{5})\sqrt{6}$
(d) $(\sqrt{2}+\sqrt{3}+\sqrt{5})\sqrt{6}$

Q.204. When f(x) = $15x^3 - 14x^2 - 4x + 10$ is divided by (3x + 2), then the remainder is:
SSC CHSL 27/05/2022 (Afternoon)
(a) – 1 (b) 1 (c) – 2 (d) 2

Q.205. If a positive integer N is divided by 7, the remainder is 3. Which of the following numbers yields a remainder of 0 when it is divided by 7 ?
SSC CHSL 27/05/2022 (Evening)
(a) N + 5 (b) N + 2 (c) N + 4 (d) N + 3

Q.206. When two numbers are separately divided by 44, the remainders are 11 and 38, respectively. If the sum of the two numbers is divided by 44, then the remainder will be :
SSC CHSL 30/05/2022 (Morning)
(a) 16 (b) 44 (c) 33 (d) 5

Q.207. If the number 732XY is divisible by 70, then find the minimum value of $\frac{x+y}{2}$.
SSC CHSL 31/05/2022 (Afternoon)
(a) 2 (b) 1 (c) 0 (d) 3

Q.208. When a certain number is multiplied by 11, the product is a six-digit number containing only 6 . Find the number that is multiplied by 11.
SSC CHSL 31/05/2022 (Evening)
(a) 79365 (b) 78365 (c) 60606 (d) 61661

Q.209. The sum of the first 78 natural numbers from 1 to 78 is divisible by
SSC CHSL 01/06/2022 (Evening)
(a) 79 (b) 61 (c) 29 (d) 30

Q.210. A number x is three times another number y. If the sum of both the numbers is 20, then x and y, respectively, are:
SSC CHSL 10/06/2022 (Evening)
(a) 8 and 12 (b) 15 and 5
(c) 5 and 15 (d) 2 and 18

SSC CGL 2021 Tier - 1

Q.211. Find the greatest number 23a68b, which is divisible by 3 but NOT divisible by 9.
SSC CGL 11/04/2022 (Morning)
(a) 238689 (b) 239685
(c) 239688 (d) 237687

Q.212. How many numbers are there from 500 to 650 (including both) which are neither divisible by 3 nor by 7 ?
SSC CGL 11/04/2022 (Afternoon)
(a) 21 (b) 121 (c) 87 (d) 99

Q.213. If 8A5146B is divisible by 88, then what is the value of B - A ?
SSC CGL 12/04/2022 (Afternoon)
(a) 0 (b) - 1 (c) 1 (d) 2

Q.214. If the 9 - digit number 7x79251y8 is divisible by 36, What is the value of ($10x^2$ - $3y^2$) for the largest possible value of y ?
SSC CGL 13/04/2022 (Morning)
(a) 490 (b) 289 (c) 192 (d) 298

Q.215. If the nine-digit number 9m2365n48 is completely divisible by 88, what is the value of ($m^2 \times n^2$) , for the smallest value of n, where m and n are natural numbers?
SSC CGL 13/04/2022 (Evening)
(a) 36 (b) 64 (c) 32 (d) 20

Q.216. Find the greatest number 234a5b, which is divisible by 22, but NOT divisible by 5.
SSC CGL 18/04/2022 (Morning)
(a) 234055 (b) 234850
(c) 234652 (d) 234751

Q.217. If each of the two numbers 5^{16} and 5^{25} are divided by 6, the remainder are R_1 and R_2, respectively. What is the value of $\frac{R_1+R_2}{R_2}$?
SSC CGL 19/04/2022 (Morning)
(a) $\frac{1}{6}$ (b) $\frac{5}{6}$ (c) $\frac{1}{5}$ (d) $\frac{6}{5}$

SSC CGL 2020 Tier - 2

Q.218. If the sum of two positive numbers is 65 and the square root of their product is 26, then the sum of their reciprocals is:
SSC CGL Tier II (29/01/2022)
(a) $\frac{3}{52}$ (b) $\frac{1}{52}$ (c) $\frac{5}{52}$ (d) $\frac{7}{52}$

Q.219. Let x = $(433)^{24}$ - $(377)^{38}$ + $(166)^{54}$. What is the unit digit of x ?
SSC CGL Tier II (29/01/2022)
(a) 9 (b) 6 (c) 8 (d) 7

Q.220. The sum of the digits of the least number which when divided by 36, 72, 80 and 88 leaves the remainders 16, 52, 60 and 68, respectively, is:
SSC CGL Tier II (03/02/2022)
(a) 17 (b) 11 (c) 14 (d) 16

Q.221. Let p, q, r and s be positive natural numbers having three exact factors including 1 and the number itself If q > p and both are two-digit numbers, and r > s and both are one-digit numbers, then the value of the expression $\frac{p-q-1}{r-s}$ is:
SSC CGL Tier II (03/02/2022)
(a) - s - 1 (b) s - 1 (c) 1 - s (d) s + 1

Q.222. The sum of three fractions A, B and C, A > B > C , is $\frac{121}{60}$. When C is divided by B, the resulting fraction is $\frac{9}{10}$, which exceeds A by $\frac{3}{20}$. What is the difference between B and C ?
SSC CGL Tier II (03/02/2022)
(a) $\frac{1}{15}$ (b) $\frac{1}{10}$ (c) $\frac{3}{10}$ (d) $\frac{7}{15}$

SSC MTS 2020 Tier - 1

Q.223. Let x be the largest 4-digit number which is divisible by each of 16, 21, 24 and 28. The sum of the digits of x is:
SSC MTS 05/10/2021 (Evening)
(a) 19 (b) 21 (c) 24 (d) 16

Q.224. Let x be the least number which on being divided by 8, 12, 15, 24, 25 and 40 leaves a remainder of 7 in each case. What will be the remainder when x is

divided by 29 ?
SSC MTS 06/10/2021 (Afternoon)
(a) 18 (b) 27 (c) 19 (d) 20

Q.225. Let x be the least number between 70000 and 75000 which on being divided by 225, 250 and 275 leaves a remainder of 61 in each case. The sum of the digits of x is:
SSC MTS 06/10/2021 (Evening)
(a) 12 (b) 29 (c) 16 (d) 21

Q.226. Let *x* be the least number between 56,000 and 60,000 which when divided by 40, 45, 50 and 55 leaves a remainder of 23 in each case.What is the sum of the digits of *x* ?
SSC MTS 08/10/2021 (Afternoon)
(a) 23 (b) 21 (c) 26 (d)19

Q.227. The difference between a positive number and its reciprocal increases by a factor of $\frac{175}{144}$ when the number is made to increase by 20%. What is the number?
SSC MTS 12/10/2021 (Afternoon)
(a) 7.5 (b) 6 (c) 2.5 (d) 5

Q.228. What is the sum of the numbers between 300 and 400 such that when they are divided by 6, 12 and 16, it leaves no remainder ?
SSC MTS 14/10/2021 (Morning)
(a) 720 (b) 764 (c) 586 (d) 632

Q.229. Let x be the greatest number by which when 448, 678 and 908 are divided, the remainder in each case is 11. When 147 is divided by x, the remainder is:
SSC MTS 14/10/2021 (Afternoon)
(a) 4 (b) 5 (c) 9 (d) 3

Q.230. When 3820, 4672 and 6163 are divided by the greatest number x, the remainder in each case is the same. What is the quotient when x divides 1035?
SSC MTS 14/10/2021 (Evening)
(a) 6 (b) 8 (c) 4 (d) 3

Q.231. Which is the largest number that will divide 1992 and 233 leaving remainders 12 and 13, respectively?
SSC MTS 02/11/2021 (Afternoon)
(a) 242 (b) 220 (c) 246 (d) 186

SSC CGL 2020 Tier - 1

Q.232. If the 5-digit number 676xy is divisible by 3, 7 and 11, then what is the value of (3x - 5y) ?
SSC CGL 13/08/2021 (Morning)
(a) 10 (b) 7 (c) 9 (d) 11

Q.233. Find the difference between squares of the greatest value and the smallest value of P if the number 5306P2 is divisible by 3.
SSC CGL 16/08/2021 (Evening)
(a) 60 (b) 68 (c) 36 (d) 6

Q.234. If the seven-digit number 94x29y6 is divisible by 72, then what is the value of (2x + 3y) for x ≠ y ?
SSC CGL 17/08/2021 (Morning)
(a) 35 (b) 21 (c) 37 (d) 23

Q.235. Find the sum of squares of the greatest value and smallest value of k in the number so that the number 45082k is divisible by 3.
SSC CGL 17/08/2021 (Evening)
(a) 68 (b) 64 (c) 100 (d) 50

Q.236. If a number P is divisible by 2 and another number Q is divisible by 3, then which of the following is true?
SSC CGL 18/08/2021 (Evening)
(a) P × Q is divisible by 6
(b) P + Q is divisible by 6
(c) P + Q is divisible by 5
(d) P × Q is divisible by 5

Q.237. The average of squares of five consecutive odd natural numbers is 233. What is the average of the largest number and the smallest number?
SSC CGL 20/08/2021 (Morning)
(a) 11 (b) 17 (c) 13 (d) 15

Q.238. If the 5-digit number 593ab is divisible by 3, 7 and 11, then what is the value of $(a^2 - b^2 + ab)$?
SSC CGL 23/08/2021 (Morning)
(a) 35 (b) 31 (c) 25 (d) 29

Q.239. If the six-digit number 5z3x4y is divisible by 7, 11 and 13, then what is the value of (x + y - z) ?
SSC CGL 23/08/2021 (Afternoon)
(a) 5 (b) 4 (c) 6 (d) 3

Q.240. Find the sum of all the possible values of (a + b), so that number 4a067b is divisible by 11.
SSC CGL 24/08/2021 (Afternoon)
(a) 5 (b) 16 (c) 21 (d) 11

SSC CHSL 2020 Tier - 1

Q.241. When a number M is divided by 7, the remainder is 6. What is the remainder if the square of M is divided by 7 ?
SSC CHSL 19/04/2021 (Evening)
(a) 4 (b) 1 (c) 3 (d) 2

Q.242. When $(2^{24} - 1)$ is divided by 7, the remainder is:
SSC CHSL 04/08/2021 (Evening)
(a) 2 (b) 0 (c) 4 (d) 1

Q.243. If a nine-digit number 489x6378y is divisible by 72, then the value of $\sqrt{8x + 6y}$ will be :
SSC CHSL 05/08/2021 (Morning)
(a) 10 (b) 4 (c) 6 (d) 8

Q.244. If the number 87m6203m is divisible by 6, then find the sum of all possible values of 'm'.
SSC CHSL 05/08/2021 (Evening)
(a) 10 (b) 20 (c) 16 (d) 15

Q.245. When a positive integer n is divided by 12, the remainder is 5. What will be the remainder if $8n^2 + 7$ is divided by 12 ?
SSC CHSL 06/08/2021 (Evening)
(a) 2 (b) 5 (c) 3 (d) 4

Q.246. When a number is divided by 3, the remainder is 2. Again, when the quotient is divided by 7, the remainder is 5. What will be the remainder when the original number is divided by 21?
SSC CHSL 11/08/2021 (Morning)
(a) 14 (b) 13 (c) 17 (d) 16

SSC CPO 2020 Tier - 1

Q.247. The remainder when 75 × 73 × 78 × 76 is divided by 34 is:
SSC CPO 23/11/2020 (Evening)
(a) 18 (b) 12 (c) 22 (d) 15

Q.248. When a number is successively divided by 3, 4 and 7, the remainder obtained are 2, 3 and 5 respectively. What will be the remainder when 84 divides the same number?
SSC CPO 24/11/2020 (Evening)
(a) 71 (b) 53 (c) 30 (d) 48

Q.249. What is the least number of soldiers that can be drawn up in troops of 10, 12, 15, 18 and 20 soldiers, and also in form of a perfect square?
SSC CPO 24/11/2020 (Evening)
(a) 180 (b) 625 (c) 900 (d) 400

SSC CGL 2019 Tier - 2

Q.250. Two positive numbers differ by 1280. When the greater number is divided by the smaller number, the quotient is 7 and the remainder is 50. The greater number is:
SSC CGL Tier II (15/11/2020)
(a) 1458 (b) 1485 (c) 1585 (d) 1558

Q.251. When positive numbers x, y and z are divided by 31, the reminders are 17, 24 and 27 respectively. When (4x - 2y + 3z) is divided by 31, the reminder will be :

SSC CGL Tier II (15/11/2020)
(a) 9 (b) 8 (c) 16 (d) 19

Q.252. If the five digit number 235xy is divisible by 3, 7 and 11 then what is the value of (3x - 4y) ?
SSC CGL Tier II (16/11/2020)
(a) 8 (b) 9 (c) 5 (d) 10

Q.253. Let x be the least number which subtracted from 10424 gives a perfect square number. What is the least number by which x should be multiplied to get a perfect square?
SSC CGL Tier II (16/11/2020)
(a) 3 (b) 6 (c) 5 (d) 2

Q.254. When positive numbers a, b and c are divided by 13, the remainder are 9, 7 and 10, respectively. What will be the remainder when (a + 2b + 5c) is divided by 13 ?
SSC CGL Tier II (16/11/2020)
(a) 10 (b) 5 (c) 9 (d) 8

SSC CHSL 2019 Tier - 1

Q.255. If a number is divided by 3, the remainder will be 2. If the number is added by 5 and then divided by 3, then what will be the remainder?
SSC CHSL 17/03/2020 (Afternoon)
(a) 3 (b) 1 (c) 2 (d) 0

Q.256. If 'a' is a natural number, then ($7a^2$ + 7a) is always divisible by:
SSC CHSL 16/10/2020 (Morning)
(a) 7 and 14 both (b) 7 only
(c) 14 only (d) 21 only

Q.257. If a positive integer 'n' is divisible by 3, 5, and 7, then what is the next larger integer divisible by all these numbers?
SSC CHSL 16/10/2020 (Evening)
(a) n + 21 (b) n + 35
(c) n + 105 (d) n + 110

Q.258. If 8 - digit number 4432A43B is divisible by 9 and 5, then the sum of A and B is equal to:
SSC CHSL 21/10/2020 (Morning)
(a) 12 (b) 5 (c) 7 (d) 8

Q.259. When a number is divided by 14, the remainder is 9. If the square of the same number is divided by 14, then the remainder will be:
SSC CHSL 21/10/2020 (Afternoon)
(a) 11 (b) 9 (c) 10 (d) 8

SSC CGL 2019 Tier - 1

Q.260. When 732 is divided by a positive integer x, the remainder is 12. How many values of x are there ?
SSC CGL 04/03/2020 (Morning)
(a) 19 (b) 20 (c) 18 (d) 16

Q.261. If 7 divided a positive integer n, the remainder is 2. Which of the following numbers gives a remainder of 0 when divided by 7 ?
SSC CGL 07/03/2020 (Afternoon)
(a) n - 5 (b) n + 5 (c) n + 2 (d) n + 1

SSC CPO 2019 Tier - 1

Q.262. When 2388, 4309 and 8151 are divided by a certain 3-digit number, the remainder in each case is the same. The remainder is:
SSC CPO 09/12/2019 (Evening)
(a) 39 (b) 23 (c) 19 (d) 15

Q.263. The sum of 3-digit numbers abc, bca and cab is always divisible by :
SSC CPO 11/12/2019 (Morning)
(a) 35 (b) 41 (c) 37 (d) 31

Q.264. Let x be the least number divisible by 13, such that when x is divided by 4, 5, 6, 7, 8 and 12, the remainder in each case is 2. The sum of the digits of the x is:
SSC CPO 12/12/2019 (Morning)
(a) 10 (b) 11 (c) 9 (d) 8

SSC CGL 2018 Tier - 2

Q.265. When 7897, 8110 and 8536 are divided by the greatest number x, then the remainder in each case is the same. The sum of the digits of x is :
SSC CGL Tier II (11/09/2019)
(a) 14 (b) 5 (c) 9 (d) 6

Q.266. Let a, b and c be the fractions such that $a \prec b \prec c$. If c is divided by a, the result is $\frac{5}{2}$, which exceeds b by $\frac{7}{4}$. If a + b + c = $1\frac{11}{12}$, then (c - a) will be equal to :
SSC CGL Tier II (11/09/2019)
(a) $\frac{1}{3}$ (b) $\frac{2}{3}$ (c) $\frac{1}{6}$ (d) $\frac{1}{2}$

Q.267. Three fractions, x,y and z, are such that x $\succ$ y $\succ$ z. When the smallest of them is divided by the greatest, the result is $\frac{9}{16}$, which exceeds y by 0.0625. If x + y + z = $1\frac{13}{24}$, then the value of x + z is :
SSC CGL Tier II (12/09/2019)
(a) $\frac{7}{8}$ (b) 1 (c) $\frac{25}{24}$ (d) $\frac{7}{6}$

Q.268. If x = $(164)^{169}$ + $(333)^{337}$ - $(727)^{726}$, then what is the unit digit of x ?
SSC CGL Tier II (12/09/2019)
(a) 5 (b) 7 (c) 8 (d) 9

Q.269. Let a,b and c be the fractions such that $a \prec b \prec c$. If c is divided by a, the result is $\frac{9}{2}$, which exceeds b by $\frac{23}{6}$. If a + b + c = $\frac{19}{12}$, then (2a + b - c) will be equal to :
SSC CGL Tier II (13/09/2019)
(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{1}{12}$ (d) $\frac{1}{4}$

Q.270. What is the remainder when (127^{97} + 97^{97}) is divided by 32 ?
SSC CGL Tier II (13/09/2019)
(a) 4 (b) 2 (c) 7 (d) 0

SSC CGL 2018 Tier - 1

Q.271. If a 10-digit number 897359y7x2 is divisible by 72, then what is the value of (3x - y) , for the possible greatest value of y ?
SSC CGL 07/06/2019 (Afternoon)
(a) 3 (b) 8 (c) 7 (d) 5

Q.272. If the six digit number 15x1y2 is divisible by 44, then (x + y) is equal to :
SSC CGL 10/06/2019 (Afternoon)
(a) 8 (b) 7 (c) 6 (d) 9

Q.273. What is the least value of X such that 517X 324 is divisible by 12 ?
SSC CGL 11/06/2019 (Morning)
(a) 3 (b) 1 (c) 0 (d) 2

SSC CPO 2018 Tier - 1

Q.274. If the seven digit number 56x34y4 is divisible by 72, then what is the least value of (x + y) ?
SSC CPO 13/03/2019 (Morning)
(a) 8 (b) 12 (c) 5 (d) 14

Q.275. The least number that should be added to 10000 so that it is exactly divisible by 327 is:
SSC CPO 15/03/2019 (Morning)
(a) 327 (b) 237
(c) 137 (d) 190

Q.276. On dividing a number by 38, the quotient is 24 and the remainder is 13, then the number is:
SSC CPO 16/03/2019 (Morning)
(a) 925 (b) 975
(c) 904 (d) 956

Q.277. When the integer n is divided by 7, the remainder is 3. What is the remainder if 5n is divided by 7?
SSC CPO 16/03/2019 (Evening)
(a) 3 (b) 0 (c) 1 (d) 2

Answer Key :-

1.(a)	2.(d)	3.(d)	4.(d)
5.(d)	6.(d)	7.(a)	8.(b)
9.(d)	10.(b)	11.(d)	12.(b)
13.(c)	14.(c)	15.(a)	16.(c)
17.(a)	18.(c)	19.(a)	20.(a)
21.(b)	22.(b)	23.(d)	24.(a)
25.(c)	26.(c)	27.(c)	28.(a)
29.(a)	30.(b)	31.(b)	32.(a)
33.(c)	34.(c)	35.(d)	36.(c)
37.(a)	38.(a)	39.(b)	40.(d)
41.(d)	42.(d)	43.(b)	44.(d)
45.(b)	46.(c)	47.(b)	48.(d)
49.(d)	50.(d)	51.(c)	52.(b)
53.(c)	54.(c)	55.(d)	56.(d)
57.(d)	58.(b)	59.(d)	60.(d)
61.(d)	62.(a)	63.(d)	64.(d)
65.(a)	66.(a)	67.(c)	68.(d)
69.(c)	70.(d)	71.(a)	72.(b)
73.(b)	74.(a)	75.(d)	76.(a)
77.(d)	78.(d)	79.(d)	80.(c)
81.(c)	82.(c)	83.(a)	84.(d)
85.(b)	86.(a)	87.(c)	88.(b)
89.(c)	90.(b)	91.(c)	92.(a)
93.(a)	94.(d)	95.(c)	96.(c)
97.(a)	98.(a)	99.(c)	100.(d)
101.(c)	102.(b)	103.(c)	104.(b)
105.(c)	106.(c)	107.(c)	108.(b)
109.(a)	110.(c)	111.(c)	112.(d)
113.(b)	114.(d)	115.(c)	116.(a)
117.(c)	118.(c)	119.(c)	120.(d)
121.(c)	122.(a)	123.(a)	124.(c)
125.(c)	126.(c)	127.(a)	128.(c)
129.(b)	130.(b)	131.(a)	132.(a)
133.(b)	134.(d)	135.(a)	136.(b)
137.(c)	138.(b)	139.(a)	140.(d)
141.(a)	142.(d)	143.(c)	144.(a)
145.(a)	146.(b)	147.(c)	148.(d)
149.(a)	150.(b)	151.(d)	152.(b)
153.(d)	154.(b)	155.(d)	156.(c)
157.(d)	158.(c)	159.(d)	160.(b)
161.(c)	162.(c)	163.(c)	164.(c)
165.(b)	166.(b)	167.(b)	168.(c)
169.(a)	170.(d)	171.(d)	172.(b)
173.(b)	174.(b)	175.(c)	176.(d)
177.(d)	178.(d)	179.(b)	180.(c)
181.(a)	182.(b)	183.(b)	184.(a)
185.(d)	186.(d)	187.(d)	188.(d)
189.(b)	190.(a)	191.(d)	192.(c)
193.(d)	194.(a)	195.(c)	196.(c)
197.(d)	198.(a)	199.(a)	200.(a)
201.(b)	202.(d)	203.(b)	204.(d)
205.(c)	206.(d)	207.(b)	208.(c)
209.(a)	210.(b)	211.(b)	212.(c)
213.(c)	214.(d)	215.(b)	216.(c)
217.(d)	218.(c)	219.(c)	220.(d)
221.(a)	222.(a)	223.(c)	224.(b)
225.(c)	226.(a)	227.(d)	228.(a)
229.(c)	230.(c)	231.(b)	232.(c)
233.(a)	234.(c)	235.(a)	236.(a)
237.(d)	238.(d)	239.(b)	240.(c)
241.(b)	242.(b)	243.(d)	244.(a)
245.(c)	246.(c)	247.(b)	248.(a)
249.(c)	250.(b)	251.(b)	252.(d)
253.(c)	254.(d)	255.(b)	256.(a)
257.(c)	258.(c)	259.(a)	260.(b)
261.(b)	262.(d)	263.(c)	264.(b)
265.(d)	266.(d)	267.(c)	268.(c)
269.(d)	270.(d)	271.(c)	272.(b)
273.(d)	274.(c)	275.(c)	276.(a)
277.(c)			

Solutions :-

Sol.1.(a) 24 = 8 × 3
For 11p9q4 to be divisible by 8, its last 3 digits i.e. 9q4 should be divisible by 8
Then, the possible values of q are 4, 8.
But for the greatest value , q should be 8.
For 11p9**8**4 to be divisible by 3, the sum of its digits i.e. 1 + 1 + p + 9 + **8** + 4 = 23 + p should be divisible by 3.
For greatest value, p should be 7
Hence, pq = 7 × 8 = 56

Sol.2.(d) Given :- $\frac{9 + 9^2 + \ldots + 9^{(2n+1)}}{6}$

$\frac{9}{6}$ = Rem 3 , $\frac{9^2}{6}$ = Rem 3 ,

..... $\frac{9^{2n+1}}{6}$ = Rem 3

So, $\frac{3 \times (2n+1)}{6} = \frac{6n+3}{6}$ = Rem 3

Sol.3.(d) Remainder when sum of these numbers are divided by same divisor
= 57 + 57 = 114
According to the question ,

$\frac{114}{divisor}$ = Rem.(49)
Required divisor = (114) − 49 = 65

Sol.4.(d)
Divisor = 5 × Remainder = 5 × 44 = 220
Quotient = $\frac{220}{11}$ = 20
Dividend = 220 × 20 + 44 = 4444

Sol.5.(d)
Co-prime factor of 88 = (8 and 11)
Least value of y , when $y24$ divisible by 8 :- y = 0
Now , checking divisibility of 11
⇒ (7 + 0 + 5 + 3 + 2) − (8 + x + 3 + 0 + 4) = 0
⇒ 17 − (15 + x) = 0 ⇒ 2− x = 0 ⇒ x = 2
Now , value of $(x + y)$ = 2 + 0 = 2

Sol.6.(d)
Ratio :- initial : final
Divisor :- 4 : 5
Dividend :- 10 : 11
Initial quotient = 25
Initial dividend (10 units) = 25 × 4 = 100
Then final dividend (11 units) = 110
Final quotient = $\frac{110}{5}$ = 22

Sol.7.(a) Divisibility of 33 : the given number must be divisible by 11 and 3.
Divisibility of 11 : the difference between the sum of odd place digit and the sum of even place digit is either 0 or 11.
Divisibility of 3 : the sum of all digits of the given number must be divisible by 3.
The given number = $7x1yyx$
$(7 + 1 + y) - (x + y + x)$ = 0 or 11
8 − 2x = 0 ⇒ x = 4
Now, (7 + 4 + 1 + y + y + 4) = 16 + 2y
Putting value of y = 1
16 + 2y = 18 [divisible by 3]
So, required sum = 4 + 1 = 5

Sol.8.(b) According to the question,
10 × 12 = (10 + 5) × x
Number of tree in each row(x)
= $\frac{12 \times 10}{15}$ = 8

Sol.9.(d) 720 = $2^4 \times 3^2 \times 5^1$
Total no of factors = 5 × 3 × 2 = 30
Removing 1 and 720
= 30 − 2 = 28

Sol.10.(b) $(14)^{\frac{1}{3}} = (14)^{\frac{4}{12}}$, $(12)^{\frac{1}{2}}$
= $(12)^{\frac{6}{12}}$, $(16)^{\frac{1}{6}} = (16)^{\frac{2}{12}}$ & $(25)^{\frac{1}{12}}$
= $(25)^{\frac{1}{12}}$

Therefore, $(25)^{\frac{1}{12}}$ is smallest fraction

Sol.11.(d)
I. $(100^2 - 99^2) + (98^2 - 97^2) + (96^2 - 95^2)$

$+ (94^2 - 93^2)$ ..... $+ 22^2 - 21^2 = 4840$
$= (100 + 99)(100 - 99) + (98 - 97)(98 + 97) + (96 - 95)(96 + 95)$ .....$+ (22 - 21)(22 + 21)$
$= (100 + 99 + 98 + 97 + 96 + 95$ .....$21)$
$= \frac{1}{2} \times 80 \times (21 + 100) = 40 \times 121 = 4840$
So, LHS = RHS

II. $(k^2 + \frac{1}{K^2})(K - \frac{1}{K})(K^4 + \frac{1}{K^4})(K + \frac{1}{K})$
$(K^4 - \frac{1}{K^4}) = K^{16} - \frac{1}{K^{16}}$
$= (k^2 + \frac{1}{K^2})(k^2 - \frac{1}{K^2})(K^4 + \frac{1}{K^4})(K^4 - \frac{1}{K^4})$
$= (K^4 - \frac{1}{K^4})(K^4 + \frac{1}{K^4})(K^4 - \frac{1}{K^4})$
$= (K^8 - \frac{1}{K^8})(K^4 - \frac{1}{K^4})$
So, LHS ≠ RHS
Clearly, we can see that only statement 1 is correct .

Sol.12.(b) 33 = 11 × 3
For 52A6B7C to be divisible by 11, the difference of the sum of its alternate digits i.e.(5 + A + B + C) - (2 + 6 + 7)
= A + B + C - 10, should be divisible by 11.
For this, we have: A + B + C - 10 = 0/11…
⇒ A + B + C = 10
As we know, the sum of three odd no's are always odd. It suggests that there should be 1 even prime no i.e.2. So, we get A, B, C as 2, 3, 5
For 52A6B7C to be divisible by 3, the sum of its digits i.e.
5 + 2 + A + 6 + B + 7 + C = 20 + A + B + C , should be divisible by 3.
Now, putting A + B + C = 10 ,
we get : 20 + 10 = 30, divisible by 3.
For maximum value of
2A + 3B + C ; A = 3, B = 5, and C = 2
So, 2A + 3B + C = 2 × 3 + 3 × 5 + 2
= 6 + 15 + 2 = 23

Sol.13.(c) The given number is 83P93678Q is divisible by 72.
Co - prime factor of 72 is (8, 9).
So the number must be divisible by 8 and 9
For divisible by 8, last 3 digits must be divisible by 8 i.e. (78Q)
Last digit must be 4 ⇒ Q = 4
Now , for divisible by 9 ,
its digit sum must be divisible by 9
8 + 3 + P + 9 + 3 + 6 + 7 + 8 + 4
= 48 + P ⇒ P = 6
$\sqrt{P^2 + Q^2 + 12} = \sqrt{36 + 16 + 12} = 8$

Sol.14.(c) Jay answered 4 correct answers and + 5 marks are given for every correct answer that means he scored 20 marks for his correct answer
But Jay scored - 12 marks that means he loses his 20 marks of correct answers also.
Total marks deducted due to incorrect answers = 20 + 12 = 32
For every incorrect answer 2 marks are deducted.
So, no of incorrect answers = $\frac{32}{2}$ = 16

Sol.15.(a)
S_1 = 2, 9, 16, **23**, 30, 37, 44, **51**, ..., 632
S_2 = 7, 11, 15, 19, **23,** 27, 31, 35, 39, 43, 47, **51**,
Common terms between given series = 23, 51,.....
Common difference(d) = 51 - 23 = 28
ATQ,
23 + (n - 1)28 ≤ 632
(n - 1)28 ≤ 609 ⇒ n - 1 ≤ 21.75
n ≤ 22.75 ⇒ so, n = 22
Now, S = $\frac{22}{2}[2 \times 23 + (22 - 1)28]$
S = $11[46 + 21 \times 28]$
S = $11\ [46 + 588] = 11 \times 634 = 6974$

Sol.16.(c) 56 = 7 × 8
For x8942y4 to be divisible by 56,
it must be divisible by both 7 and 8.
For 8, last 3 digits 2y4 is divisible by 8
⇒ y = 2 or 6,
for maximum value we take y = 6.
For x8942y4 to be divisible by 7, the difference of the sum of alternate digits taken 3 at a time ,must be divisible by 7.

⇒ 894 – (264 + x) = 630 – x
⇒ x = 7 (as x ≠ 0)
Therefore, $x^2 + y = 7^2 + 6 = 55$.

Sol.17.(a)
As prime numbers have 2 factors
Only the squares of prime numbers will have three factors. ⇒ Let r = 9 and s = 4
And q = 49 and p = 25
$\frac{p - q - 1}{r - s} = \frac{25 - 49 - 1}{9 - 4} = \frac{-25}{5}$ = - 5
Putting s = 4 in all options we find only option (a) satisfies this value.

Sol.18.(c) 0.0625 = $\frac{1}{16}$,
So , y = $\frac{9}{16} - \frac{1}{16} = \frac{8}{16} = \frac{1}{2}$
Again, x + y + z = $2\frac{3}{12} = \frac{27}{12}$
x + z = $\frac{27}{12} - \frac{1}{2} = \frac{27 - 6}{12} = \frac{7}{4}$

Sol.19.(a) For a number to be divisible by 125, last 3 digits i.e. xy5, must be divisible by 125
Possible three digits which are divisible by 125 and end with 5
= 125, 375, 625, 875
So, the six digit no's which are divisible by 125 = 4

Sol.20.(a) LCM of 5, 6 and 7 = 210
Numbers divisible by 210 between 400 and 700 = 420, 630
So, there are 2 such numbers.

Sol.21.(b) $(30)^5 \times (24)^5$
$= (2 \times 3 \times 5)^5 \times (2^3 \times 3)^5$
$= 2^{20} \times 3^{10} \times 5^5$
Number of prime factors = (20 + 10 + 5)
Number of prime factors = 35

Sol.22.(b) HINT : ab and ba both can be prime only and only when both are odd number
Such numbers are 13, 31, 17, 71, 37, 73, 79, 97
Sum = 13 + 31 + 17 + 71 + 37 + 73 + 79 + 97 = 418

Sol.23.(d) The whole number which divides $2^{20} + 1$ also divides the multiple of $2^{20} + 1 \Rightarrow 2^{60} + 1 = (2^{20} + 1)(2^{40} + 1 - 2^{20})$
Using formula :
$a^3 + b^3 = (a + b)(a^2 + b^2 - ab)$
$2^{60} + 1$ is the multiple of $2^{20} + 1$
so,$2^{60} + 1$ is completely divisible by that whole number.

Sol.24.(a)
$7^{81} + 7^{82} + 7^{83} \Rightarrow 7^{81} \times (1 + 7 + 7^2)$
$\Rightarrow 7^{81} \times (1 + 7 + 49) \Rightarrow 7^{81} \times (57)$
$\Rightarrow 7^{80} \times (7 \times 57) = 7^{80} \times (399)$
Option (a) follows.

Sol.25.(c) Let N be the number which gives Q as quotient and 15 as remainder when divided by d.
Thus, d > 15
N = d × Q + 15
10N = 10(d × Q) + 144 + 6
clearly d is a multiple of 144 which are: 2, 3, 4, 6, 8, 9, 12, 16, 18, 24 and so on.
The least possible value of d is 16.
(d > 15)

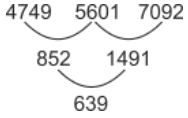
Sol.26.(c) When 200 is divided by x, the remainder is 8. So, the number exactly divisible by x is 192.
Factors of 192 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 64, 96, 192
The remainder is always less than the divisor ,
so x > 8
⇒ Desired values are 12, 16, 24, 32, 48, 64, 96, 192.

Sol.27.(c) divisibility by 11 = sum of odd places digits - sum of even places digits
= (1 + 6 + 2 + 1 + 3 + 3 + 1) - (5 + 3 + 4 + 2 + 4 + 5) = - 6 (not divisible by 11)

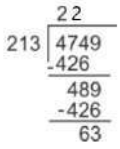
If the sum of digits is divisible by 3, then the number is also divisible by 3.
= 1+5+6+3+2+4+1+2+3+4+3+5+1
= 40 (not divisible by 3)

Sol.28.(a) Total no's less than 1000 which is divisible by 5 = $\frac{1000}{5}$ - 1
= 200 - 1 = 199
Total no's less than 1000 which is divisible by 7 = $\frac{1000}{7}$ = 142
Total no's less than 1000 which is divisible by 35 = $\frac{1000}{35}$ = 28
Required no = 199 + 142 - (2 × 28)
= 285

Sol.29.(a) Difference :-

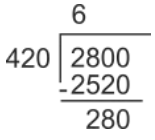


As per question, the greatest possible number is taken that divides the three numbers 4749, 5601 and 7092 giving same remainder i.e. r
Now, 5601 - 4749 = 852
7092 - 5601 = 1491
There is no common factor between 852 and 1491
Then again we will take their difference that comes out to be 639
639 can be further break down into 213 that divides 852 , 4 times
And 1491, 7 times 'd' is 213



And 'r' = 63
As per question,
$(d + r)$ = 213 + 63 = 276

Sol.30.(b) Now, the LCM of 2, 3, 4, 5, 6 and 7 = 420



On Subtracting , 420 - 280 = 140
Now, Adding 140 to 2800
2800 + 140 = 2940
As per question, 1 is the remainder that we get in each case but 2940 is completely divisible by 2, 3, 4, 5, 6 and 7
Therefore,
the number = 2940 + 1 = 2941
Now, the sum of the digits is 16.

Sol.31.(b) Now, we know that the number that is divisible by 7, 11 and 13 is 1001
if 1001 is multiplied with a three digit number say, 'abc' then
the product comes out to be abcabc
⇒ x = 4 , y = 7, z = 9
Putting these values in the equation
{(y + z) ÷ x }
= {(7 + 9) ÷ 4 } = 16 ÷ 4 = 4

Sol.32.(a) As per the options the difference between all the two values of the given four options is '2'
Thus, in such cases : if there is the same difference between the numbers then, The greatest value with the square root of the given options fetches the smallest value. So √401 - √399 will give the smallest value.

Sol.33.(c) $3^{61284} = (3^4)^{15321}$
Now, 3^4 = 81. 81 divided by 5 gives remainder 1. ⇒ $(1)^{15321}$ = 1
So, remainder when 3^{61284} is divided by 5 = x = 1
When 4 raised to any power is divided by 6 it will give the remainder 4.
$\Rightarrow y = 4$
$\Rightarrow (2x - y) = 2(1) - 4 = -2$

Sol.34.(c) Sequence of quotient from bottom to top:
17 × **2** + 0 = 34
34 × **11** + 17 = 391
391 × **1** + 34 = 425
So, the no's are 391 and 425
Required sum = 391 + 425 = 816

Sol.35.(d) Let the numbers be x and y.
According to the question
x - y = 2001 …… (1)
And 9y + 41 = x …… (2)
Put the value of x in eq (1)
9y + 41 - y = 2001 ⇒ 8y = 1960
y = 245 ⇒ x = 9(245) + 41 = 2246
Required sum = 2 + 2 + 4 + 6 = 14

Sol.36.(c) Let the number = 10x + y
According to the question
(10x + y)(x + y) = 424 ……(1)
And
(10y + x)(x + y) = 280 ……..(2)
Divide equation (1) by (2)
$\Rightarrow \frac{(10x+y)}{(10y+x)} = \frac{424}{280} \Rightarrow \frac{(10x+y)}{(10y+x)} = \frac{53}{35}$
⇒ 350x + 35y = 530y + 53x
$\Rightarrow 297x = 495y \Rightarrow \frac{x}{y} = \frac{5}{3}$
Put this value in any of the equations
(10x + y)(x + y)=[{10(5) + 3}(5 + 3)] = 424
Or
(10y + x)(x + y) = [{10(3) + 5}(5 + 3)] = 280
Clearly 5 and 3 are the desired values and the sum of the digits = 5+3 = 8

Sol.37.(a) 15 = 3 × 5
18 = 2 × 3 × 3 ;20 = 2 × 2 × 5
27 = 3 × 3 × 3
LCM of 15, 18, 20 and 27
= 2 × 2 × 3 × 3 × 3 × 5 = 540
$\Rightarrow x\ must\ be\ = 540k + 10$
Where 540k + 10 is multiple of 31
The condition gets satisfied when k = 4
Required number = 540 (4) + 10 = 2170
Nearest square to 2170 = 2209
Required number = 2209 - 2170 = 39

Sol.38.(a) 3600 = $2^4 \times 3^2 \times 5^2$
$total\ Number\ of\ factors\ (3600)$
= (4 + 1) (2 + 1) (2 + 1) = 45

Sol.39.(b) 12 = 2 × 2 × 3 ;16 = 2 × 2 × 2 × 2
18 = 2 × 3 × 3; 20 = 2 × 2 × 5
25 = 5 × 5
LCM of 12,16,18,20 and 25 =
2 × 2 × 2 × 2 × 3 × 3 × 5 × 5 = 3600
$\Rightarrow x\ must\ be\ = 3600k + 4$
Where 3600k + 4 is multiple of 7
The condition gets satisfied when k=5
Required number = 3600(5) + 4 = 18004
$\Rightarrow digit\ at\ the\ thousands'\ place\ in\ x\ = 8$

Sol.40.(d) Short trick:-
Put any odd value of k. For example k = 1
$(8^{2k} + 5^{2k}) \Rightarrow (8^{2(1)} + 5^{2(1)}) = 89$
Clearly 89 will be the factor.

Sol.41.(d) Given,
x = $(633)^{24}$- $(277)^{38}$ + $(266)^{54}$
Unit digit of $(633)^{24} = 3^4 = 1$
Unit digit of $(277)^{38} = 7^2 = 9$
Unit digit of $(266)^{54} = 6^2 = 6$
Unit digit of x = 1 - 9 + 6 = - 2
But unit digit can't be negative so, required unit digit = 10 + (- 2) = 8

Sol.42.(d) Let the number = 10x + y
According to the question
$(x + y) = \frac{1}{7}(10x + y)$ …….(1)
And , y = x - 4
Put this value in equation (1)
$(x + x - 4) = \frac{1}{7}(10x + x - 4)$
14x - 28 = 11x - 4
$x = 8$ and y = 8 - 4 = 4
the number obtained on reversing the digit = 10y + x = 10(4) + 8 = 48
Required remainder = $\frac{48}{7}$ = 6

Sol.43.(b) If the number 'a' and 'b' are divisible by a number 'n' then, a + b and a - b are also divisible by n.
Here the numbers are 7531, 7105 and 6892
the required number then becomes H.C.F of 7531 - y, 6892 - y and 7105 - y or the HCF of (7531 - y) - (7105 - y) and (7105 - y) - (6892 - y)
(7531 - y) - (7105 - y) = 426
(7105 - y) - (6892 - y) = 213
213 = 3 × 71 ⇒ 426 = 2 × 3 × 71
So, HCF of 426 and 213

x = 3 × 71 = 213
The remainder =
$\frac{7531}{213} = \frac{7105}{213} = \frac{6892}{213}$ = y = 76
$\Rightarrow (x - y) = 213 - 76 = 137$

Sol.44.(d) x will be the HCF of the differences of the three numbers.
6475 - 4984 = 1491
4984 - 4132 = 852
6475 - 4132 = 2343
1491 = 3 × 7 × 71
852 = 2 × 2 × 3 × 71
2343 = 3 × 11 × 71
So,
HCF of 2343, 1491 and 852 = 3 × 71 = 213
So, sum of digit = 2 + 1 + 3 = 6

Sol.45.(b) Let the quotient be x.
So, n = 8x + 3
6n-1 = 6(8x + 3) - 1= 48x + 17
48 is multiple of 8 so 48 will be exactly divisible by 8. But when we divide 17 by 8 the remainder is 1.
Short-trick:
choose the smallest value of n for which remainder is 3 when the number is divided by 8. ⇒ Let n = 11
6n-1 = 6(11) - 1 = 65
Remainder when 65 is divided by 8 = 1

Sol.46.(c) Since 5y5884805x6 is divisible by 72, it must be divisible by 9 and 8 (coprime factors of 72). So the sum of digits of this number must be divisible by 9 and last three digits by 8.
5 + y + 5 + 8 + 8 + 4 + 8 + 0 + 5 + x + 6
⇒ 49 + x + y,
Possible values of x + y = 5, 14
For x + y = 5
Possible values of x, y
= (1, 4), (2, 3), (3, 2), (4, 1)
For x + y = 14
Possible values of x,y
= (5, 9), (6, 8), (7, 7), (8, 6), (9, 5)
Among these values last three digits of the number are divisible by 8 only when x = 3 or 7
But for x = 3, y = 2.....($x \neq y$)
Clearly the desired values of x and y are 7 and 7 respectively.
$\sqrt{xy} = \sqrt{7 \times 7} = 7$

Sol.47.(b) 44

	44
4	1936
+4	-16
84	336
	-336
	0

Sol.48.(d) Difference between the largest and the smallest number
9652 - 2569 = 7083

Sol.49.(d) Possible numbers are:
307, 370, 703 and 730.
Therefore, their sum = 2110

Sol.50.(d) LCM of (15, 18 and 42) = 630
Let the number be (630k + 8).
Minimum value of k for which (630k + 8) is divisible by 13, is equal to 3.
Hence the number (630k + 8)
= {630(3) + 8} = 1898.
Sum of digits = 1 + 8 + 9 + 8 = 26

Sol.51.(c) Since, $\sqrt{1354.24} = 36.8$

Sol.52.(b) LCM of (12, 16 and 54) = 432
Let the number be (432k + 7)
ATQ: For (432k + 7) to be exactly divisible by 13. {429k + (3k + 7)} should also be divisible by 13.
Putting the value of k=1,2,3, ... in (3k + 7), k = 2 satisfies the equation.
Therefore, least possible number = 871
Sum of digits = 8 + 7 + 1 = 16

Sol.53.(c) Divisibility of 9 :- sum of the digits should be divisible by 9.
as its sum of digits
= 1 + 3 + 0 + 5 + 9 =18
which is divisible by 9.
Clearly , 13059 is divisible by 9.

Sol.54.(c) Required number = 78 × 280
Remainder when same no. divided by 65
$= \frac{78 \times 280}{65} = \frac{13 \times 6 \times 5 \times 56}{65}$
$= \frac{65 \times 6 \times 5\,6}{65}$ = Remainder = 0

Sol.55.(d) Remainder = 46
Divisor = 46 × 5 = 230
Quotient = $\frac{230}{10}$ = 23
Dividend = 230 × 23 + 46 = 5336

Sol.56.(d)
Largest 5 digits number = 99999
Now , $\frac{99999}{88}$ = Rem.(31)
So , required no. = 99999 − 31 = 99968

Sol.57.(d) $\frac{999999}{294}$ = Rem. (105)
So , required number = 294 − 105 = 189

Sol.58.(b)
Factor of 2520 = 2 × 2 × 2 × 3 × 3 × 5 × 7
Clearly 8 , 9 and 7 are the divisors of number 2520 .

Sol.59.(d)
$\frac{3^8}{7} = \frac{3^3 \times 3^3 \times 3^2}{7} = \frac{27 \times 27 \times 9}{7}$
= Rem.$\frac{(-1) \times (-1) \times (2)}{7}$ = Rem. (2)

Sol.60.(d) $\frac{n}{7}$ = Rem.(2)
$\frac{9n}{7}$ = Rem.$\frac{9 \times 2}{7}$ = Rem.(4)

Sol.61.(d) Sum of digits should be divisible by 3 not by 9 .
3 + 2 + a + 7 + 8 + b = 20 + a + b
For greatest number , a should by maximum.
Max. possible value for (a + b) = 13
So , a = 9 and b = 4
Required no. = 329784

Sol.62.(a) Given, $a^3 + b^3 = 10234$
a + b = 34 ----- equ. (1)
We know
$(a + b)^3 = a^3 + b^3 + 3ab\,(a + b)$
$(34)^3 = 10234 + 3ab\,(34)$
39304 - 10234 = 102 × ab ⇒ ab = 285
Then, $(a - b)^2 = (a + b)^2 - 4ab$
$(a - b)^2 = 34^2 - 4 \times 285$
$(a - b)^2 = 16$
(a - b) = 4 ------ equ. (2)
Now , Add equation (1) and (2)
2a = 38
Where , a = 19 and b = 15 ,So that
$a^3 - b^3 = 19^3 - 15^3 = 6859 - 3375 = 3484$

Sol.63.(d)
620x976y52 is divisible by 88 (8 × 11)
Divisibility of 8 = last three digit of the number must be divisible by 8
Divisibility of 11 = difference of sum of odd and even places of the number is 0 or multiple of 11
Now, in the given number y52 is must be divisible by 8
So, for least value, y = 1
Again , checking divisibility of 11
(6 + 0 + 9 + 6 + 5) − (2 + x + 7 + y + 2) = 0 or multiple of 11
26 − (11 + x + 1) = 0 or multiple of 11
14 − x = 11 ⇒ x = 3
Hence, ($x^2 + y^2$) = 9 + 1 = 10

Sol.64.(d) Given **:-** N = 4a6b9c
N is divisible by 99 therefore it must be divisible by both 9 and 11
(4 + 6 + 9) - (a + b + c) ⇒ 19 - (a + b + c)
if a + b + c = 8 then N is divisible by both 11 and 9
Hence , sum of digits of N = 19 + 8 = 27

Sol.65.(a) $\frac{(265)^{4081} + 9}{266}$ = Rem
$\frac{(266 - 1)^{4081} + 9}{266}$ = Rem
$\frac{(-1)^{4081} + 9}{266}$ = Rem
$\frac{(-1) + 9}{266}$ = Rem. (8)

Sol.66.(a) Let A has x no. of toffees and B has y no. of toffees.

According to the question,
Condition 1 :-
$x - 1 = y + 1$
$x = y + 2$ .....e.q .(1)
Condition 2 :-
$x + 1 = 2 \times (y - 1)$
$x - 2y = -3$
$y + 2 - 2y = -3$ (from eq 1)
$y = 5$ and $x = 7$
Total no. of toffees = 5 + 7 = 12

Sol.67.(c) Divisibility rule of 8 = last 3 digits of the number will be divisible by 8.
Last 3 digit of the number = ...326 - 6
= ..... 320 (divisible of the 8)
So the required number will be = 6

Sol.68.(d)
Largest 5 - digit number = 99999
According to question,
$\frac{99999}{88}$ ⇒ Remainder = 31
Required number = 99999 − 31 = 99968

Sol.69.(c) $3 + 3^2 + 3^3 + \ldots\ldots\ldots + 3^8$
⇒ 3 + 9 + 27 +..... + 6561
Common ratio (r) = $\frac{Second\ term}{First\ term} = \frac{9}{3} = 3$
$S_n = \frac{a(r^n - 1)}{(r-1)} \Rightarrow S_n = \frac{3(3^8 - 1)}{(3-1)} =$ 9840

Sol.70.(d) 132 is divisible by 3 , 4 and 11
By checking the given numbers
Only 660 , 924 , 1452 , 1980 (4 numbers) be the divisible by 132

Sol.71.(a) Let six digit number which is divisible by 33 (11 × 3) is 111111
After adding 54 on it
New number = 111165
Now, by checking the option,
Number (111165) be divisible by 3

Sol.72.(b) 24 = 3 × 8
So, the given number must be divisible by 3 and 8.
In 52668 → last 3 digit is not divisible by 8
In 49512 → sum of digits = 21 and
$\frac{512}{8}$ = 64 [divisible by 24]
In 64760 → sum of digits = 23
[not divisible by 3]
In 26968 → sum of digits = 31
[not divisible by 3]
It is clear that in the above expression option (b) is the correct answer.

Sol.73.(b) Cost of 32 pens and 12 pencils = 790 Rs.
On dividing by 4 , we get
Cost of $\frac{32\ pens}{4}$ and
$\frac{12\ pencils}{4} = \frac{790\ Rs.}{4}$ = 197.5 Rs.
Cost of 8 pens and 3 pencils = 197.5 Rs.

Sol.74.(a) By checking option one by one , only option (a) satisfied $\frac{888 + 22}{35}$ = 26

Sol.75.(d) 7823326867 X is divisible by 18
So , the given no. must be divisible by 9 and 2. For divisibility of 9
= 7 + 8 + 2 + 3 + 3 + 2 + 6 + 8 + 6 + 7 + X
= 52 + X
52 + X , divisible by 9 only if the value of X = 2
The given no = 78233268672
...(also divisible by 2)

Sol.76.(a) We know that:-
Dividend = Divisor × Quotient + Remainder
Ratio → initial : final
Dividend → 10 : 9
Divisor → 5 : 4

Initial quotient = 24
Initial number = 24 × 5 = 120
120 which is equal to $10x$. ⇒ x = 12
Final dividend ($9x$) = 108
Final quotient = $\frac{108}{4}$ = 27

Sol.77.(d) Given numbers are 8840,1542 , 96272 and 55512 .
A number divisible by 36 , only when it is divisible by 9 and 4.
Divisibility of 4 :- last two digits of given no. must be divisible by 4
Divisibility of 9 :- sum of digits of given no. must be divisible by 9
8840 = not divisible by 9
1542 = not divisible by 4
96272 = not divisible by 9
55512 = divisible by 9 and 4 ,
hence 55512 divisible by 36 also.

Sol.78.(d)
Let the numbers are a and b , then
According to the question ,
a + b = 98 --------- Eq (1)
And a - b = 28 --------- Eq (2)
on adding both the equations , we get
2a = 98 + 28 ⇒ a = $\frac{126}{2}$ = 63
Second number (b) = 98 − 63 = 35

Sol.79.(d) Given numbers are 9592450 , 9592330 , 9592885 and 9592741
Divisibility of 11 :- Difference of sum of digits at even place and odd place will be zero or multiple of 11. On checking the divisibility one by one , we found that 9592330 is divisible by 11.

Sol.80.(c) According to question,
$\frac{m}{7}$ → Remainder = 5
$\frac{3m}{7}$ → Remainder $\frac{(5 \times 3)}{7}$ = Remainder 1

Sol.81.(c)
Factor of 484 = 1 × 2 × 2 × 11 × 11
Required sum = 1 × ($2^0 + 2^2$) × ($11^0 + 11^2$) = 1 × 5 × 121 = 610

Sol.82.(c) According to the question,
72 × 72 = x × 216
Number (x) = $\frac{72 \times 72}{216}$ = 24

Sol.83.(a) Given numbers are 34936, 35508, 35580 and 36508
For a number divisible by 33 ,
it should be divisible by 3 and 11.
On checking the divisibility one by one , we found that 35508 is divisible by 3 and 11, so it is also divisible by 33.

Sol.84.(d) Divisibility of 9 :-
sum of digit of the number be divisible by 9 Then,
6234a6 = 6 + 2 + 3 + 4 + a + 6 = 21 + a
Hence , value of a = 6

Sol.85.(b) Divisibility of 11 :- difference of the sum of odd places digit and even place digits of the number must be 0 or divisible by 11
Now, To find the smallest number to add, we need to add the difference to the next multiple of 11. Therefore, the smallest number that must be added to 9454351626 so as to obtain a sum which is divisible by 11 is 6.

Sol.86.(a) $\frac{8^8 + 6}{7}$ = Rem. $\frac{(+1)^8 + 6}{7}$
= Rem. $\frac{1 + 6}{7}$ Remainder = 0

Sol.87.(c) Let Divisor = $78x$, then
Quotient = $6x$ and Remainder = $13x$
Given that , Remainder = 39 ⇒ x = 3
Divisor = 78 × 3 = 234 and
Quotient = 6 × 3 = 18
Dividend = 234 × 18 + 39 = 4251

Sol.88.(b) Number (99) = 11 × 9
Divisibility of 9 :- sum of digit of the number is also divisible by 9
Divisibility of 11 :- difference of sum of the digit of odd places and even places be 0 or divisible by 11.
so , by checking option one by one option 'b' be the divisible by 11 and 9 (or 99)

Sol.89.(c) If a number is in the form of $a^n + b^n$, where n is odd, then the number is divisible by (a + b).
$\frac{x^{17} + 1^{17}}{x + 1}$,
it is completely divisible by (x + 1)
Hence, remainder = 0

Sol.90.(b) According to the question,
abba is divisible by 4

Then , last two digit (ba) be divisible by 4 {where a < b}
So, possible values of ba =
(32, 52 , 64 , 72 , 76 , 84 , 92 , 96) = 8

Sol.91.(c)
Given number = 846523X7Y
Divisibility of 9 : sum of all digits should be divisible by 9.
Hence, Y + X = 10 .....(1) and
Y - X = 6 .....(2)
By solving equation (1) and (2) we get,
X = 2 and Y = 8
Now, $\sqrt{2X + 4Y} = \sqrt{4 + 32} = \sqrt{36} = 6$

Sol.92.(a) Let the number be x.
According to question,
$\frac{x}{45} = \frac{x}{15 \times 3}$ → Remainder = 21
$\frac{x}{15}$ → Remainder = $21 - 15 = 6$

Sol.93.(a) Smallest 5-digit no = 10,000
When 10,000 is divided by 526 ,
gives the remainder 6.
So, the required no = 10000 + (526 - 6)
= 10520

Sol.94.(d) 6 digit consecutive natural numbers = 123456, 234567, 345678.....
Clearly, we can see that the sum of its digits is always multiple of 3.
So, the no is always divisible by 3.

Sol.95.(c)
Sum of digits of the given number,
5826 = **21**, 5964 = **24**, 6039 = 18,
6336 = 18, 6489 = 27, 6564 = **21,**
6867 = 27 and 6960 = **21**.
Clearly, the numbers whose sum of digits are 18 and 27 are also divisible by 9.
So, 4 numbers are divisible by 3 but not by 9.

Sol.96.(c)
11368 = (1 + 3 + 8) - (1 + 6) = 5,
12638 = (1 + 6 + 8) - (2 + 3) = 10
11863 = (1 + 8 + 3) - (1 + 6) = 5
11638 = (1 + 6 + 8) - (1 + 3) = **11**
Clearly, 11638 is divisible by 11.

Sol.97.(a) 7864K3 is divisible by 7.
By option , least possible value of K , for which 7864K3 is divisible by 7 , is 4

Sol.98.(a)
Sum of digits must be divisible by 9.
9 + 6 + 5 + x + 4 + 7 + 5 = 36 + x
Possible value of x = 0 or 9

Sol.99.(c)
Clearly, 193 is the prime number.

Sol.100.(d)
Dividend = Divisor × Quotient + Remainder
According to question,
Divisor = $\frac{18935 - 65}{102}$ = 185

Sol.101.(c) Sum of digits of the given number must be divisible by 9.
7 + @ + 5 + 4 + 7 + 1 = 24 + @
Possible least values of @ = 3

Sol.102.(b)
co-prime factor of 18 = 9 and 2 ,
Given no. must be divisible by both 9 and 2
4 + 5 + 7 + 6 + 4 + 3 + * + 4 = 33 + *
Possible values of * = 3

Sol.103.(c) $(6^{61} + 6^{62} + 6^{63} + 6^{64})$
$= 6^{61}(1 + 6 + 6^2 + 6^3)$
$= 6^{61}(1 + 6 + 36 + 216) = 6^{61}(259)$
Here, by checking all the options, 259 is divisible by 7.
So, the given number will be divisible by 7.

Sol.104.(b) Divisibility of 11 : the given number is divisible by 11 only when the difference of sum of odd place digits and sum of even place digits is 0 or 11.
In 57464054 : (5 + 4 + 4+5) − (7+6+0+4)
= 18 − 17 = 1
In 57464044 : (5 + 4 + 4 + 4) − (7+6+0+4)
= 17 − 17 = 0 [divisible by 11]
In 57463822 : (7+6+8+2) − (5+4+3+2)
= 23 − 14 = 9
In 57463823 : (7+6+8+3) − (5+4+3+2)
= 24 − 14 = 10

Sol.105.(c)
Co-prime factor of 72 = 8 and 9
Clearly , 486280 is not divisible by 9 ,
Hence 486280 is also not divisible by 72.

Sol.106.(c) 10373 + 24871 = 35244
Clearly , it is divisible by 6.

Sol.107.(c) Rem. $(\frac{4^{999}}{7})$ = Rem. $(\frac{64^{333}}{7})$
Rem. $(\frac{(1)^{333}}{7})$ = Remainder (1)

Sol.108.(b) 974581297426 ,
(9 + 4 + 8 + 2 + 7 + 2) − (7 + 5 + 1 + 9 + 4 + 6) = 32 − 32 = 0
Given no. is clearly divisible by 11.

Sol.109.(a) Divisibility of 120 :- no. should be divisible by 3 , 8 and 5
Checking divisibility of 3 , from the given option ,
only , option (a) satisfies the condition.
So , 170280 is divisible by 120.

Sol.110.(c) Rem. $(\frac{151314}{15})$
= Rem.$(\frac{150000 + 1305 + 9}{15})$
Clearly , remainder = 9

Sol.111.(c) Divisibility of 12 : The given number must be divisible by 4 and 3.
Divisibility of 4 : The last 2 digits of the given number must be divisible by 4.
Divisibility of 3 : The sum of all the digits of the given number must be divisible by 3.
In 5409844 : (5 + 4 + 0 + 9 + 8 + 4 + 4) = 34 [not divisible by 3]
In 4298123 : last digit if odd. So, not divisible by 4.
In 4512984 : (4 + 5 + 1 + 2+ 9 + 8 + 4) = 33 [divisible by 3 and 4]
In 3215678 : (3 + 2 + 1 + 5+ 6 + 7 + 8) = 32 [not divisible by 3]
It is clear that **4512984** is the number that is divisible by 3 and 4.

Sol.112.(d) Number of whole number between 12^2 and 11^2 :-
$\{144 - 121\} - 1 = 22$

Sol.113.(b) Divisibility of 3 :- sum of digits should always be divisible by 3.

Sol.114.(d) LCM(2, 3, 4) = 12
(12 × 9) smallest three - digit number which is divisible by 2, 3 and 4 .
(108 + 1) = 109 , smallest three - digit number which when divided by 2, 3 and 4 leaves remainder 1 in each case

Sol.115.(c) in this type of question go through option (c) get satisfied
(103 + 5) = 108 , is divisible by 2 and 3

Sol.116.(a)
1 - 2 + 3 - 4 + 5 - 6 ..... to 100 terms
⇒ (1 - 2) = -1, (3 - 4) = -1 and so on
Total terms = 50
Therefore, 1 - 2 + 3 - 4 + 5 - 6 ..... to 100
$= 50 \times -1 = -50$

Sol.117.(c) 5A72B is divisible by 11
So, 5 + 7 + B - (A + 2) = 0 or 11
B - A + 10 = 0 or 11
B - A = 11 - 10 = 1

Sol.118.(c)
series = - 9, - 6, - 3, ...(series is in the A.P.)
So, a = - 9 , d = 3
Sum of n number
$S_n = \frac{n}{2}[2a + (n - 1)d]$
$\Rightarrow 45 = \frac{n}{2}[-18 + (n - 1)3]$
$\Rightarrow 3n^2 - 21n - 90 = 0 \Rightarrow$ n = 10 and -3
(no of terms never be -ve)
Therefore, no. of terms in the given series = 10 term

Sol.119.(c) Series = 1 + 5 + 6 + 10 + 11 + 15 + 16 + 20 + ...
= (1 + 6 + 11 + 16 + ...) + (5+10 + 15 +..)
$S_{200} = \frac{100}{2}[2 + (99) \times 5] + \frac{100}{2}[10 + (99) \times 5] = 50[497] + 50[505] = 50 \times 1002$

= 50100

Sol.120.(d) Prime numbers between 20 and 50 = (23, 29, 31, 37, 41, 43, 47)
= 7 prime numbers

Sol.121.(c) Let the three consecutive even number x , x + 2 and x + 4
According to the question,
(x + x + 2 + x + 4) = 126
⇒ 3x = 120 → x = 40
Then, smallest number (x) = 40 and greatest number (x + 4) = 44
Therefore, product of smallest and greatest number = 40 × 44 = 1760

Sol.122.(a) 2x64y is completely divisible by 88(11 and 8)
So, divisibility check for 11 ⇒ (8 + y) - (x + 4) = 0 or 11 → y - x = 7 --------(1)
now , divisibility check for 8
⇒ $\frac{64y}{8}$ → y = 0 or 8
Putting the value of y = 8 in eq .1
then, x = 1
Therefore, (6x - 5y) = (6 × 1 - 5 × 8) = -34

Sol.123.(a) All three digit number divisible by 15
→ 105 , 120 , 135 , ...,990
Sum = $\frac{n}{2}(a + l)$
Where a = first term and l = last term
No. of terms = ($\frac{990 - 105}{15}$ + 1) = 60
Therefore,
their sum = $\frac{60}{2}(105 + 990)$ = 32850

Sol.124.(c) Prime numbers between 23 and 43 = (29,31,37,41)
Then, Composite numbers between 23 and 43 = (19 - 4) = 15

Sol.125.(c) 1 − 7 + 2 − 8 + 3 − 9 + 4 − 10 + ... to 100
(1 + 2 + 3 + 4 + ...50) − (7 + 8 + 9 + ...56)
S_n = ($\frac{50}{2}$[1 + 50]) − ($\frac{50}{2}$[7 + 56])
= 1275 − 1575 = − 300

Sol.126.(c) The average of three consecutive composite numbers
= $\frac{36}{3}$ = 12
so , the composite numbers = 10, 12, 14
So ,
product of the numbers = 10 × 12 × 14
= 1680

Sol.127.(a) 654321 × 123456
On multiplying the given number, the unit digit will be 6 .
From the given option , only option (a) has unit digit 6.
So , 376 will be the last three digits.

Sol.128.(c) Two digit even numbers = 10, 12, 14 98
Sum = $\frac{n}{2}(a + l)$
Where a = first term and l = last term
No. of terms = ($\frac{98 - 10}{2}$ + 1) = 45
Therefore,
their sum = $\frac{45}{2}(98 + 10)$ = 2430

Sol.129.(b) 7A425B, 36 (if any number is divisible by 36 then the number also divisible by 9, 4)
If any number is divisible by 4 then the last two digit will be divisible by 4,
so the value of B = 2
If any number is divisible by 9 then the sum of numbers is divisible by 9,
So the value of A = 7
Accordion to the question,
A − B = 7 − 2 = 5

Sol.130.(b) L.C.M = 2 × 2 × 2 × 3 × 5 × 7
= $2^3 \times 3^1 \times 5^1 \times 7^1$
Total number of factors
⇒ (3 + 1)(1 + 1)(1 + 1)(1 + 1) = 32
According to the question ,
32 − (2) = 30(except 1 and 840)

Sol.131.(a) Divisibility of 4 :- when the last two digits of the given number are divisible by 4 , then the given number is also divisible by 4.
For , XY7B to be divisible by 4 → 7B should be divisible by 4
Possible value of B = 2 , and 6
So largest possible value of B = 6 .

Sol.132.(a) Numbers between 17 and 457 that are divisible by both 5 and 3 → 30 , 45 , 60 450
Formula :- a_n = a + $(n - 1)$ × d
450 = 30 + $(n - 1)$ × 15
n = $\frac{435}{15}$ = 29 terms.

Sol.133.(b) First , we do the square root of 7387 → $\sqrt{7387}$ ≈ 86
Now,
prime numbers will be present near 86.
That is 83 and 89 .
Required difference = 6 .

Sol.134.(d) According to the question,
48ab is divisible by → 2, 5 , 7
then , this number also be divisible by their LCM → 70 = 10 × 7
Now, for divisibility of 10, last no. should be 0 → b = 0
After dividing the number by 7 → a = 3
Therefore, (10a − b) = 30

Sol.135.(a) Number divisible by 5 between 201 and 401 = 40
Number divisible by both 4 and 5 between 201 and 401 = (220 , 240 , 260 , 280 , 300 , 320 , 340 , 360 , 380 , 400) = 10 numbers
So, Required Number = 40 − 10 = 30

Sol.136.(b)
Formula :- Sum of n odd numbers = n^2
There are 50 odd numbers between 1 to 100
So the sum of 50 odd numbers = 50^2
= 2500
According to the question,
Sum of odd 2 digit numbers,
So, 2500 − (1 + 3 + 5 + 7 + 9) = 2475

Sol.137.(c) Let the number be x
According to the question,
x + $\frac{1}{x}$ = 4 then, sum of their squares
⇒ $x^2 + \frac{1}{x^2}$ = 16 − 2 = 14

Sol.138.(b) 98^2 - 97^2 + 96^2 - 95^2 + 94^2 - 93^2 + ... 12^2 - 11^2
= (98 + 97) (98 - 97) + (96 + 95) (96 - 95) + (94 + 93) (94 - 93) + ...(12 + 11) (12 - 11)
= 98 + 97 + 96 + 95 + 94 + 93.....12 + 11
Total term (n) = 88
Sum of given series = $\frac{n}{2}$(first term + last term) = $\frac{88}{2}$(98 + 11) = 44 × 109 = 4796

Sol.139.(a) Divisibility rule of 9 = the sum of digits of number is divisible by 9
According to the question,
84pp153p → 8 + 4 + p + p + 1 + 5 + 3 + p = 21 + 3p, p = 2
= 21 + 6 = 27 (27, is divisible by 9 so the number is divisible by 9)

Sol.140.(d) Let the numbers be x and y.
⇒ $x^2 + y^2$ = 12 , xy = 4
⇒ $(x - y)^2 = x^2 + y^2 - 2xy$ = 12 − 8 = 4
⇒ $x - y$ = 2

Sol.141.(a) Divisibility of 11 :- When the difference between the sum of odd and even place digits is equal to 0 or multiple of 11
73A215 = 7 + A + 1 = 3 + 2 + 5
⇒ 8 + A = 10 (A = 2)
if the sum of digits of number is divided by 9 then the number is itself is divisible by 9.
56B26 → 5 + 6 + B + 2 + 6 = 19 + B,
(B → 8) (19 + 8 = 27 is divisible by 9)
so the value of A + B = 2 + 8 = 10

Sol.142.(d)
Formula :- $a^2 - b^2$ = (a + b)(a − b)
4^2 - 3^2 + 6^2 - 5^2 + 8^2 - 7^2 + ... 92^2 - 91^2

7 + 11 + 15 +.....183

Number of terms(a_n) = a + (n − 1)d

183 = 7 + (n−1)4 ⇒ n = 45

$S_n = \frac{n}{2}$[2a + (n − 1) × d]

$= \frac{45}{2}$[2 × 7 + (45 − 1) × 4]

$= \frac{45}{2}$[14 + 44 × 4] = 4275

Sol.143.(c) $(125)^{\frac{1}{6}}, (11)^{\frac{1}{3}}, (12)^{\frac{1}{6}}, (5)^{\frac{1}{4}}$

(multiplying by 12 in the power)

$(125)^2, (11)^4, (12)^2, (5)^3$

→ $(125)^2, (121)^2, (144), (125)$

Now we can see $(125)^{\frac{1}{6}}$ is the largest value.

Sol.144.(a) I. $\frac{5}{11}$ = 0.45 and $\frac{5}{6}$ = 0.83

⇒ $\frac{5}{11} > \frac{5}{6}$ (Wrong statement)

II. $\frac{5}{9}$ = 0.55 and $\frac{8}{9}$ = 0.88

⇒ $\frac{5}{9} > \frac{8}{9}$ (wrong statement)

III. $\frac{5}{6}$ = 0.83 and $\frac{4}{5}$ = 0.8

⇒ $\frac{5}{6} > \frac{4}{5}$ (right statement)

Sol.145.(a) 5769116 is divisible by 4 as its last two digits are divisible by 4.

Sol.146.(b) Rule for divisibility of 11 →

The difference between the sum of odd and even place digits is equal to 0 or multiple of 11.

The given number (2918245) is completely divisible by 11 .

2 + 1 + 2 + 5 = 10,

9 + 8 + 4 = 21 ⇒ 21 − 10 = 11

Sol.147.(c) Concepts :- {In (a^n - b^n), if n is even number it is divisible by both (a + b) and (a - b)}.

$(49^{15} - 1) = ((7^2)^{15} - 1) = (7^{30} - 1)$

Here , the given term $(7^{30} - 1)$ must be divisible by both (7 + 1) and (7 - 1)

Clearly from given options it is divisible by 8.

Sol.148.(d) Concepts :-

Remainder $(\frac{(x-1)^n}{x}) = (-1)^n$

Rem.$(\frac{(27^{27}+27)}{28})$ = Rem.$(\frac{(-1)^{27}+27}{28})$

$= \frac{-1+27}{28}$ = 26

Sol.149.(a) LCM of (3, 7, 11) = 231

Given number = 750PQ

Let 750PQ = 75099.

Rem.$(\frac{75099}{231})$ = reminder (24)

Required no. = 75099 − 24 = 75075

So , P = 7 and Q = 5

Now, P + 2Q = 7 + 2 × 5 = 17

Sol.150.(b) Total number of toffee students have = 2 + 4 + 6 + 8 …… 25 terms

Sum = $\frac{n}{2}${2a + (n - 1)d}

Sum = $\frac{25}{2}${2 × 2 + (25 - 1) × 2}

= $\frac{25}{2}$× 52 = 650 = 25 × 26 = 5 × 5 ×13 ×2

650 is clearly divisible by 5 and 13 .

Sol.151.(d) Let the larger number be x and smaller number be y .

According to question ,

x - y = 1564 …….eq .(1)

6y + 19 = x ⇒ x - 6y = 19 ……..eq .(2)

On solving eq .(1) and eq .(2) , we get

5y = 1545 ⇒ y = 309

Sol.152.(b) Nearest number which is greater to 87501 and is completely divisible by 765 is :- 765 × 115 = 87975

Short Trick:-

In this type of question make factor of 765 = 5 × 3 × 3 × 17

And now , check the option which is divisible by 3 , 5 and 17 .

Clearly , 87975 is clearly divisible by 3 , 5 and 17 .

Sol.153.(d) If , Rem. $(\frac{N}{7})$ = 4 Then ,

Remainder $(\frac{N^2}{7})$ = Rem.$(\frac{4^2}{7})$ = 2

Short Trick :-

Assume a number which when divisible by 7 leaves remainder 4 i.e. 11

Now square the number i.e. 121 leaves rem. 2 , when divided by 7.

Sol.154.(b) Divisibility of 2 :- The last digit of the number must be 0 , 2 , 4 , 6 and 8 only .

Divisibility of 4 :- if the last two digits of a number is divisible by 4 , then the given number will also be divisible by 4.

Divisibility of 8 :- if the last three digits of a number is divisible by 8 , then the given number will also be divisible by 8.

Given no. is 123456xy , for divisible by 8 ,Its last digit will be (0,2,4,6 and 8)

its last 2 digits i.e. xy must be divisible by 4

its last 3 digits i.e. 6xy must be divisible by 8

Possible pairs are (0, 0) , (0, 8) , (1, 6) , (2, 4) , (3, 2) , (4, 0) , (4, 8) , (5, 6) , (6, 4) , (7, 2) , (8, 0) , (8, 8) , (9, 6)

Sol.155.(d) Given 6 - digit no. is 674pq0 is divisible by 33.

For divisible by 3 :- 6 + 7 + 4 + p + q + 0 must be divisible by 3.

For divisible by 11 :- (6 + 4 + q) - (7 + p) must be divisible by 11.

Now, from the option , we can see that the option **(d)** satisfies the condition.

Number is 674520.

Sol.156.(c) On dividing a certain number by 363 , we get 17 as remainder ,

Then the number is 363x + 17

⇒ (363x + 17) = (11 × 33x + 17)

Multiple of 11 will always be divisible by 11.

Remainder on dividing (363x + 17) by 11 = 6

Sol.157.(d) L.C.M. (7, 9, 11) = 693

Now, largest five digit number is 99999

When we divide 99999 by 693 , the remainder will be 207.

No. completely divisible by 693 is

99999 - 207 = 99792

Now, the largest number which when divided by 7 , 9 and 11 leaves

remainder 3 in each case :- 99792 + 3

= 99795

Sol.158.(c) Factor of 49 = 7 × 7

Factor of 147 = 3 × 7 × 7

Factor of 322 = 2 × 7 × 23

Clearly , 7 is the largest which divides 49 , 147 and 322 , leaving 0 as remainder in all cases.

Sol.159.(d) Concepts :- If a number 'n' when divided by 'x' leaves remainder 'y'

Then 'n^2' divided by the same no. then reminder will be 'y^2'

and 'zn' is divided by 'x' then the remainder will be zy.

According to question ,

A number 'n' when divided by 6 leaves the remainder 3 .

Now, Rem.$\frac{(n^2+5n+8)}{6}$

= Rem.$(\frac{9+15+8}{6})$ = Rem = 2

Sol.160.(b) K = 42 × 25 × 54 × 135

K = 3 × 14 × 5 × 5 × 3^3 × 2 × 3^3 × 5

= 3^7 × 14 × 5 × 5 × 2 × 5

Hence, maximum value of a = 7

Sol.161.(c) 9435 + 7593 - 2607 = 14421

Now, from the option it is only divisible by 3.

Rem.(13 ×17 k + 30) = Rem.$(\frac{30}{13})$ = Rem. 4

Sol.162.(c) Let the original no be x

ATQ, $\{\frac{(x+7)\times 5}{3}\}$ - 4 = 16

= $\frac{(x+7)\times 5}{3}$ = 20 = $\frac{x+7}{3}$ = 4

= x + 7 = 12 ⇒ x = 12 - 7 = 5

Sol.163.(c) 75 = 25 × 3

For 678p37q to be divisible by 25 , the last two digits i.e.7q should be divisible by 25.
For this , the value q = 5
Now, For 678p37**5** to be divisible by 3, the sum of its digits i.e.6 + 7 + 8 + p + 3 + 7 + **5** = 36 + p, should be divisible by 3.
For p not to be a composite no, the value of p must be 3 i.e. 39, divisible by 3.

Sol.164.(c) LCM of (3, 4, 5, 7) = 420
When 35460 is divided by 420 leaves , remainder 180.
So, the no which should be added
= 420 - 180 = 240

Sol.165.(b) Let the six - digit no be abcabc. It can be written as :
100000a + 10000b + 1000c + 100a + 10b + c = 100100a + 10010b + 1001c
= 1001 × (100a + 10b + c)
Clearly, we can see that 6-digit no is always divisible by 1001.

Sol.166.(b)

The given fraction are ; $\frac{4}{5}, \frac{2}{3}, \frac{1}{11}, \frac{2}{9}$

$\frac{4}{5}$ = 0.80, $\frac{2}{3}$ = 0.66,

$\frac{1}{11}$ = 0.09, $\frac{2}{9}$ = 0.22

Arranging it in ascending order , we get ;
$\frac{1}{11} < \frac{2}{9} < \frac{2}{3} < \frac{4}{5}$

Sol.167.(b) Let the bigger and smaller no be x and y respectively
ATQ,
$x \times \frac{17}{20} = y \times \frac{23}{20} \Rightarrow \frac{x}{y} = \frac{23}{17}$
and, x + y = 680
(23 + 17) unit = 680
40 unit = 680
$\Rightarrow$ 1 unit = $\frac{680}{40}$ = 17
So, the smaller no. = 17 unit = 17 × 17
= 289

Sol.168.(c) Let the four digit pin be abcd.
a , b = 2a, c = 4a, d = 8a
Putting a = 1. We get the four digit pin as 1248 which is divisible by 2, 3 and 13

Sol.169.(a) 99 = 9 × 11
For 3422213AB to be divisible by 9, the sum of its digits i.e.3 + 4 + 2 + 2 + 2 + 1 + 3 + A + B = 17 + A + B Should be divisible by 9.
For this, we have : 17 + A + B = 18 or 27
$\Rightarrow$ A + B = 1 or 10
For 3422213AB to be divisible by 11, the difference of the sum of its alternate digits i.e.(3 + 2 + 2 + 3 + B) - (4 + 2 + 1 + A) = 10 + B - 7 - A = 3 + B - A , should be divisible by 11.
For this we have : 3 + B - A = 0 or 11
$\Rightarrow$ B - A = - 3 or 8
On solving A + B = 10 and B - A = 8
we get A = 1 , B = 9
Now, 2A + B = 2 × 1 + 9 = 2 + 9 = 11

Sol.170.(d) LCM of 15 and 18 = 90
So, the least possible no. = 90K + 3
= 90 × 1 + 3 = 93 (putting k = 1)

Sol.171.(d)

Prime factorization of 196 = 4 × (7^2)
So, the no. of factors which are divisible by 4 = 2 + 1 = 3

Sol.172.(b) LCM of 12, 16, 24 = 48
So, the required no is in the form of 48k + 5.
Putting K = 12, we get ; 48 × 12 + 5 = 581
Putting K = 13, we get ; 48 × 13 + 5 = 629
Putting K = 14, we get ; 48 × 14 + 5 = 677
Now, adding all the no's , we get :
581 + 629 + 677 = 1887

Sol.173.(b) 36 = 4 × 9
For 72x8431y4 to be divisible by 4,
its last 2 digit y4 must be divisible by 4.
For the smallest value of y, we have y = 2
Now, For 72x8431**2**4 to be divisible by 9, the sum of its digits i.e. 7 + 2 + x + 8 + 4 + 3 + 1 + 2 + 4 = 31 + x must be divisible by 9, For this, the value of x must be 5 i.e. 31 + 5 = 36, which is divisible by 9.
So, $\frac{x}{y} - \frac{y}{x} = \frac{5}{2} - \frac{2}{5} = \frac{21}{10} = 2\frac{1}{10}$

Sol.174.(b) After arranging the digits in descending order and subtracting 65 from the new no, we get :
853210 → 853210 - 65 = 853145, which is divisible by 5 (∵last digit is 5)

Sol.175.(c) 3 4 R 0 5 0 3 0 M 6
Divisibility of 11 = difference of the sum of alternate digits must be 0/11/22....
Divisibility of 16
= must be divisible by 4, 8.
(3 + R + 5 + 3 + M) - (4 + 0 + 0 + 0 + 6) = 0/11
R + M = 10 .....(1)
So, M cannot be 1, the last 3 digits should be divisible by 8 and the last two digits should be divisible by 4.
So, M = 5 and R = 5

Sol.176.(d) 132 = 4 × 3 × 11
For 6336633P to be divisible by 4, the last 2 digit no i.e. 3P must be divisible by 4.
For 6336633P to be divisible by 3, the sum of its digits i.e. 6 + 3 + 3 + 6 + 6 + 3 + 3 + P= 30 + P, must be divisible by 3.
For6336633P to be divisible by 11, the difference of the sum of its alternate digits i.e.18 - (12 + P) = 6 - P,
must be divisible by 11
Combining all , we get P = 6.
Then, 36, divisible by 4
30 + 6 = 36, divisible by 3
6 - 6 = 0, divisible by 11
Hence, the value of P = 6

Sol.177.(d) For 476xy0 to be divisible by 11, the difference of the sum of its alternate digits i.e.
7 + x - (10 + y) = x - y - 3 should be divisible by 11
For this we have , x - y - 3 = 0/11/22....
x - y = 3 -------- (1)
For 476xy0 to be divisible by 3, the sum of its digits i.e.4 + 7 + 6 + x + y + 0 = 17 + x + y, should be divisible by 3.
For this, x + y = 1/4/7/10..... But we get fractional values .of x and y
so, x + y = 13 --------(2)
Solving equation (1) and (2), we have :
x = 8 and y = 5

Sol.178.(d) 88 = 11 × 8
For 97x4562y8 to be divisible by 8, the last 3 digits i.e.2y8,should be divisible by 8.
For the smallest value of y, the value of y=4
For 97x4562**4**8 to be divisible by 11, the difference of the sum of its alternate digits i.e.(8 + 2 + 5 + x + 9) - (4 + 6 + 4 + 7) = 24 + x - 21 = 3 + x ,should be divisible by 11
$\Rightarrow$ 3 + x = 0/11 $\Rightarrow$ x = 11 - 3 = 8
Therefore, the least value of ($x^2 + y^2$) =
$8^2 + 4^2$ = 64 + 16 = 80

Sol.179.(b) Numbers between 1 and 1000, divisible by 2 and 7,
14, 28, 42, 56, 70, ...994
So, number of terms
$= \frac{last\ number - first\ number}{diff.} + 1$
$= \frac{994 - 14}{14} + 1 = 70 + 1 = 71$

Sol.180.(c) Factors of 216 = $(2)^3 \times (3)^3$
Sum of odd factors = $(3)^0 + (3)^1 + (3)^2 + (3)^3$ = 1 + 3 + 9 + 27 = 40

Sol.181.(a) A smallest 6 digit number which is divisible by 198 is 100188.
Sum of digits = 1 + 0 + 0 + 1 + 8 + 8 = 18
After rearranging the digits of six digit number , sum of digits be constant
So, by the option, option 'a' satisfied
{ A no is divisible by 3 if sum of its digits is a multiple of 3}

Sol.182.(b) 763254 - 205 = 763049
So, the new number formed is divisible by 7.

Sol.183.(b)
Let the two numbers be x and y.
$x - y = 3951$..... (1)
$x = 12y + 13 \Rightarrow x - 12y = 13$..... (2)
By solving eq . (1) and (2) , we get x = 4309 and y = 358

Sum of the digits of the larger number = 4309, 4 + 3 + 9 = 16

Sol.184.(a) It is given that,

$6 < \sqrt[3]{N} < 7 \Rightarrow 6 < N^{\frac{1}{3}} < 7$

$6^3 < (N^{\frac{1}{3}})^3 < 7^3 \Rightarrow 216 < N < 343$

So, the total possible values of N = (343 - 216) - 1 = 126

Sol.185.(d)

I. Let the two digit no be 10x + y

ATQ, (10x + y) - (10y + x) = 36

9x - 9y = 36 $\Rightarrow$ x - y = 4

II. The value of no can be 84 as 84 - 48 = 36

III. the number formed in the given case may or may not be composite no. i.e. 84 which is a composite no and 73 which is a prime no.

Clearly, we can see that option (d) is the correct one.

Sol.186.(d) As we know, that sum of two odd numbers gives an even no and two even no. also gives an even no.

Putting x = 2 which is the only even prime no, we have

y + z = 70 - 2 = 68

The possible value of y and z is (7, 61) and (31, 37)

So, the value of z = 61 or 37

Checking the options, we get z = 37. Hence, the correct option is (d).

Sol.187.(d)

Required numbers from 400 to 700 are : 466, 566, 606, 616, 626, 636, 646, 656, 660, 661, 662, 663, 664, 665, 667, 668, 669, 676, 686, 696.

So, the total such number is 20. Hence, option (d) is the correct answer.

Sol.188.(d) Clearly, we can observe that each term is followed by n(n+1).

So, T_n = n(n + 1) = n^2 + n

$S_{20} = \sum_{n=1}^{20} n^2 + \sum_{n=1}^{20} n$

$S_{20} = \left(\frac{20 \times 21 \times 41}{6}\right) + \frac{20 \times 21}{2}$

S_{20} = 2870 + 210 = 3080

Sol.189.(b) Given series is the combination of two series :

I. $\frac{7}{2} + \frac{7}{6} + \frac{7}{12} + \ldots\ldots \frac{7}{156}$

$= 7\left(\frac{1}{1\times2} + \frac{1}{2\times3} + \frac{1}{3\times4} + \ldots \frac{1}{12\times13}\right)$

$= 7\left(1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} \ldots\ldots \frac{1}{12} - \frac{1}{13}\right) \Rightarrow 7\left(1 - \frac{1}{13}\right) = 7 \times \frac{12}{13} = \frac{84}{13}$

II. $\frac{11}{3} + \frac{11}{15} + \ldots\ldots \frac{11}{575}$

$= \frac{11}{2}\left(\frac{2}{1\times3} + \frac{2}{3\times5} \ldots\ldots \frac{2}{23\times25}\right)$

$= \frac{11}{2}\left(1 - \frac{1}{3} + \frac{1}{3} - \frac{1}{5} \ldots\ldots \frac{1}{23} - \frac{1}{25}\right)$

$= \frac{11}{2}\left(1 - \frac{1}{25}\right) = \frac{11}{2} \times \frac{24}{25} = \frac{132}{25}$

So, the required sum = $\frac{84}{13} + \frac{132}{25}$

$= \frac{84 \times 25 + 132 \times 13}{325}$

$= \frac{2100 + 1716}{325} = \frac{3816}{325}$

Sol.190.(a) As we know, co-prime no's are pairs of no's that have only one common factor that is 1.

From the given option, we get 22 and 24 have two common factors. So, it is not a coprime no.

Sol.191.(d) Concept :

odd + odd = even, even + odd = odd

Since, the sum of three prime no's is even, it implies that one of the three no's must be 2 i.e.the only even prime no.

Let the two no's be x and x + 30

According to the question,

2 + x + (x + 30) = 90

2x + 32 = 90 $\Rightarrow$ 2x = 90 - 32 = 58

$\Rightarrow$ x = $\frac{58}{2}$ = 29

Then, the no's are 2, 29, 29 + 30 = 59

Sol.192.(c) Divisibility of 3 :- A number is divisible by 3 if the sum of the number is divisible by 3.

Divisibility of 11 :- A number is divisible by 11 if the difference of sum of odd places values and even places values is equal to 0 or multiple of 11.

Given no. = 608xy0

Sum of no. = 6 + 0 + 8 + x + y + 0

= 14 + x + y

x + y = 1, 4, 7, 10,13 and so on.---------(i)

Difference between Sum of the odd place value and even place value

= (6 + 8 + y) - (x)

= 14 + y - x $\Rightarrow$ 14 + y - x = 0

$\Rightarrow$ x - y = 14 or 3 --------(ii)

From (i) and (ii),

x + y = 13 , x - y = 3

2x = 16 $\Rightarrow$ x = 8 and y = 5

So, 608850 is divisible by both 3 and 11.

Sol.193.(d) 12 = 4 × 3

$= \frac{6352 \times 7A1}{4 \times 3}$

As 6352 is divisible by 4 , so 7A1 should be divisible by 3.

For 7A1 to be divisible by 3, the sum of its digits i.e. 7 + A + 1 = 8 + A, should be divisible by 3.

Possible value of A = 1 , 4 , 7

According to option ,

Only option (d) satisfies .

Sol.194.(a) 90 = 10 × 9

For 743pq to be divisible by 10, its unit digit must be zero. so, q = 0

For 743p**0** to be divisible by 9, the sum of its digits i.e.7 + 4 + 3 + p + 0 = 14 + p, should be divisible by 9.

For this the value of p is 4.(as 18 is divisible by 9)

Hence, $\frac{q}{p} = \frac{0}{4} = 0$

Sol.195.(c) The unit digit of

$(14)^{112} + (14)^{113} = 14^{112}(1 + 14)$

$= (14^{112} \times 3) \times 5 = 0$

Unit digit is zero.

Sol.196.(c) First term after 200 which divisible by 30 = 210

last term before 400 which divisible by 30 = 390

Common difference (d) = 30

Using AP, we have

$\Rightarrow$ n = $\frac{390 - 210}{30} + 1 = \frac{180}{30} + 1 = 6 + 1 = 7$

Sol.197.(d) Time taken to read full news paper = n minutes

Part of newspaper read in 1 minute = $\frac{1}{n}$

Newspaper read in 7 minutes = $\frac{7}{n}$

Sol.198.(a)

Smallest three digit number = 100

L.C.M of 6, 8 = 24

24)100(4
-96
4

24-4=20,20+1=21

So, required number = 100 + 21 = 121

Sol.199.(a) Total number = $\frac{200 - 100}{7}$

So, divisor(no of multiple of 7) = 14

Sol.200.(a) 22 = 11 × 2

For 23x45678 to be divisible by 11, difference of the sum of alternate digits. i.e (8 + 6 + 4 +3) - (7 + 5 + x + 2), should be divisible by 11.

$\Rightarrow$ 21 - (14 + x) = 0

$\Rightarrow$ 7 - x = 0 $\Rightarrow$ x = 7

So, putting x = 7,23745678 , is divisible by 22

Sol.201.(b)

Dividend = quotient × divisor + remainder

8675123 = 33611 × D + 3485

8671638 = 33611D

D = $\frac{8671638}{33611}$ = 258

Sol.202.(d) Let the no be x

ATQ,

x - $\sqrt{x}$ = 2 $\Rightarrow$ x - 2 = $\sqrt{x}$

Squaring both side

$(x-2)^2 = x \Rightarrow x^2 + 4 - 4x = x$
$\Rightarrow x^2 - 5x + 4 = 0 \Rightarrow x^2 - 4x - x + 4 = 0$
$\Rightarrow x(x-4) - (x-4) = 0$
$\Rightarrow (x-1)(x-4) = 0 \Rightarrow x = 1$ or $x = 4$
Putting x = 1 in given equation, we have = $1 - \sqrt{1} \neq 2$, So, x = 4
Short Trick:- using hit and trial
The difference between a number and the square root of the number = 2
From option (a), $1 - \sqrt{1} \neq 2$
from option (b), $2 - \sqrt{2} \neq 2$
from option (c), $3 - \sqrt{3} \neq 2$
from option (d), $4 - \sqrt{4} = 2$

Sol.203.(b)
$(\sqrt{2}+\sqrt{3}+\sqrt{5})(\sqrt{2}+\sqrt{3}-\sqrt{5})\sqrt{6} = \{(\sqrt{2}+\sqrt{3})^2 - (\sqrt{5})^2\}\sqrt{6}$
$= \{2 + 3 + 2\sqrt{6} - 5\}\sqrt{6} = 2\sqrt{6} \times \sqrt{6} = 12$
Therefore,
$(\sqrt{2}+\sqrt{3}+\sqrt{5})(\sqrt{2}+\sqrt{3}-\sqrt{5})\sqrt{6} = 12$ which is rational number
So, the rationalizing factor of
$(\sqrt{2}+\sqrt{3}+\sqrt{5}) = (\sqrt{2}+\sqrt{3}-\sqrt{5})\sqrt{6}$

Sol.204.(d) Using remainder theorem,
$g(x) = 3x + 2 = 0 \Rightarrow x = -\frac{2}{3}$
Putting $x = -\frac{2}{3}$ in f(x)
$f(x) = 15x^3 - 14x^2 - 4x + 10$
$f(-\frac{2}{3}) = 15 \times (-\frac{2}{3})^3 - 14 \times (-\frac{2}{3})^2 - 4 \times (-\frac{2}{3}) + 10$
$= -\frac{40}{9} - \frac{56}{9} + \frac{8}{3} + 10 = -\frac{72}{9} + 10$
$= -8 + 10 = 2$

Sol.205.(c) Let N be 24 which when divided by 7 gives remainder 3.
Now on putting N = 24 in different options to get the required answer.
We get, N + 4 = 24 + 4 = 28 is completely divisible by 7.

Sol.206.(d) Let the two no be N_1 and N_2
ATQ, $44q + 11 = N_1$ — (1)
$44q + 38 = N_2$ — (2)
Adding eqn. (1) and (2)
$N_1 + N_2 = 88q + 49$
On dividing the no's by 44
we get $\frac{49}{44}$, remainder = 5

Sol.207.(b) 70 = 7 × 10
For 732XY to be divisible by 70. We have to check the divisibility of 10. So, for this unit digit i.e.y should be 0.
Again, for 732X0 to be divisible by 7 . we have x = 2 or 9 but to get the minimum value we have to take x = 2.
Now, the minimum value of $\frac{x+y}{2}$
$= \frac{2+0}{2} = \frac{2}{2} = 1$

Sol.208.(c) Let the number be x
ATQ,
$x \times 11 = 666666$, $x = \frac{666666}{11} = 60606$
So, the required no is 60606

Sol.209.(a) Sum of first 78 natural no.
$= \frac{78(78+1)}{2} = 39 \times 79$
On checking the options we get the given no i.e. 39 × 79 is divisible by 79

Sol.210.(b) x = 3y And , x + y = 20
so,3y + y = 20 ⇒ y = 5 , x = 3y = 3 × 5 = 15
So, x and y = 15 and 5

Sol.211.(b) For greatest number take a = 9 and b = 9
23**9**68**9** , now for making it divisible by 3 but not by 9.
we will change the value of b , 2 + 3 + 9 + 6 + 8 + 9 = 37
37 - 1 = 36 (divisible by both 9 and 3)
37 - 4 = 33 (divisible by 3 but not by 9)
So b = 9 - 4 = 5
Required number = 239685

Sol.212.(c)

	till 500	till 650	(500 -650)
Divisible by 3 →	166	216	50
Divisible by 7 →	71	92	21
Divisible by 21→	23	30	7

Numbers from 500 to 650 which are divisible by 3 or 7 = 50 + 21 - 7 = 64
Total numbers from 500 to 650
= 650 - 500 + 1 = 151
Numbers that are neither divisible by 3 nor 7 = 151 - 64 = 87

Sol.213.(c) 88 = 11 × 8
For 8A5146B to be divisible by 8, its last 3 digits 46B, should be divisible by 8
For this, B must be 4.(As,464 is divisible by 8)
For 8A5146**4** to be divisible by 11, the difference of the sum of its alternate digits i.e.(4 + 4 + 5 + 8) - (6 + 1 + A) = 14 - A, should be divisible by 11
⇒ 14 - A = 11 So, A = 3
Therefore, B - A = 4 - 3 = 1

Sol.214.(d) For 7x79251y8 to be divisible by 36, the given expression must be divisible by 9 and 4.
For 7x79251y8 to be divisible by 4, the last two digits, that is, y8 must be divisible by 4, if we take y = 8 (largest possible value) then y8 = 88 which is divisible by 4. Hence we got y = 8.
For 7x79251y8 to be divisible by 9, the sum of all digits of the given expression must be divisible by 9.
7x79251y8 = 7x7925188,
7 + x + 7 + 9 + 2 + 5 + 1 + 8 + 8
= 47 + x,
the number greater than and nearest to 47 divisible by 9 is 54.
So, 47 + x = 54.
Hence we got x = 7
$10x^2 - 3y^2 = 10(7)^2 - 3(8)^2$
= 490 – 192 = 298

Sol.215.(b) 88 = 11 × 8
For 9m2365n48 to be divisible by 8, last three digits that is, n48 must be divisible by 8, now
if we take n = 2 (smallest possible value) then n48 = 248 which is divisible by 8.
For 9m2365**2**48 to be divisible by 11, the difference of the sum of its alternate digits i.e(8 + 2 + 6 + 2 + 9) - (4 + 5 + 3 + m) = 15 - m,should be divisible by 11.
⇒ 15 - m = 11 ⇒ m = 4(15 - m≠0,as 'm' must be 1- digit no)
Hence we get m = 4 , n = 2
Now, $m^2 \times n^2 = 4^2 \times 2^2 = 16 \times 4 = 64$

Sol.216.(c) 22 = 11 × 2
For any number to be divisible by 5, the unit digit of that number must be either 5 or 0.
So, b ≠ 0 (as the given no should not be divisible by 5). Therefore, option (a) and (b) gets eliminated.
For a given expression to be divisible by 2, the unit digit must be even no.So, option (d) gets eliminated.
Now, For 234a5b to be divisible by 11 ,
(5 + 4 + 2) - (3 + a + b)= 8 - (a + b) = 0
⇒ a + b = 8
Putting b = 2 and 8,we get a = 6 and 0 respectively.
As we need the greatest number, the correct answer is 234652.

Sol.217.(d)
On dividing 5 by 6 we get R = 5 or -1.
For ease of calculation we use R = -1.
$R_1 = \frac{5^{16}}{6} = \frac{(-1)^{16}}{6}$, $R_1 = 1$
Again, $R_2 = \frac{5^{25}}{6} = \frac{(-1)^{25}}{6}$
$= R_2 = -1 = 6 - 1 = 5$
Now, $\frac{R_1 + R_2}{R_2} = \frac{1+5}{5} = \frac{6}{5}$.

Sol.218.(c)
Let the numbers be "a" and "b"
a + b = 65, $\sqrt{ab} = 26 \Rightarrow ab = 676$
$\frac{1}{a} + \frac{1}{b} = \frac{a+b}{ab} = \frac{65}{676} = \frac{5}{52}$

Sol.219.(c)
$x = (433)^{24} - (377)^{38} + (166)^{54}$
$= 3^4 - 7^2 + 6^2 = 1 - 9 + 6 = -2$
Unit digit for - 2 = 10 - 2 = 8

Sol.220.(d) LCM (36, 72, 80, 88) = 7920

Here the difference between each divisor and each remainder given in question
= 20
So, for finding the required least number, we need to deduct the difference as obtained above from the LCM of the divisors.
Required least number
= 7920 – 20 = 7900
So, sum of digits = 7 + 9 + 0 + 0 = 16

Sol.221.(a)
As prime numbers have 2 factors
Only the squares of prime numbers will have three factors.
Let r = 9 and s = 4
And q = 49 and p = 25
$\frac{p-q-1}{r-s} = \frac{25-49-1}{9-4} = \frac{-25}{5} = -5$
Putting s = 4 in all options we find only option (a) satisfies this value.

Sol.222.(a) $\frac{C}{B} = \frac{9}{10} \Rightarrow C = \frac{9}{10}B$
According to the question,
$\frac{9}{10} = A + \frac{3}{20}$
$A = \frac{9}{10} - \frac{3}{20} = \frac{15}{20} = \frac{3}{4}$
Also, $A + B + C = \frac{121}{60}$
Putting the values of C and A as obtained in above equation, we get
$\frac{3}{4} + B + \frac{9B}{10} = \frac{121}{60}$
$\frac{15+20B+18B}{20} = \frac{121}{60}$
$45 + 60B + 54B = 121$
$114B = 76 \Rightarrow B = \frac{76}{114} = \frac{2}{3}$
So, $C = \frac{9}{10}B = \frac{9}{10} \times \frac{2}{3} = \frac{3}{5}$
So, difference between B and C
$= \frac{2}{3} - \frac{3}{5} = \frac{1}{15}$

Sol.223.(c) LCM (16, 21, 24, 28) = 336

```
    29
336)9999
   -672
   3279
  -3024
    255
```

So, required largest 4-digit number
x = 9999 – 255 = 9744
Sum of digits of x = 9 + 7 + 4 + 4 = 24

Sol.224.(b)
LCM (8, 12, 15, 24, 25, 40) = 600
Required number = 600 + 7 = 607.
When 607 is divided by 29 we get,
607 = 29 × 20 + 27
So, 27 is required remainder.

Sol.225.(c)
LCM of (225, 250, 275) = 24,750
So, required number is of the form 24,750 × k + 61
Clearly, to get the number in the range between 70000 and 75000
we put k = 3,
Required number = 24750 × 3 + 61
= 74311
Sum of digits = 7 + 4 + 3 + 1 + 1 = 16.
Short Trick :- The number is of the form 24,750 × k + 61,
Here digital sum = 9 + 6 + 1 = 16,
⇒ 16 = 6 + 1 = 7.
Only option (c) gives digital sum equal to 7.

Sol.226.(a) LCM (40, 45, 50, 55) = 19800

```
      2
19800)56000
     -39600
      16400
```

19800 – 16400 = 3400
Now to get the least number between 56000 and 60000 we need to add the difference of divisor and remainder that is 3400 to 56000 and then add 23 to the result so obtained.
So, (56000 + 3400) + 23
= 59400 + 23 = 59423
So, x = 59423,
sum of the digits of x = 5 + 9 + 4 + 2 + 3
= 23

Sol.227.(d) Let the number be x,
After increasing by 20% we get $\frac{6x}{5}$
According to the question,
$\frac{\frac{6x}{5} - \frac{5}{6x}}{x - \frac{1}{x}} = \frac{175}{144}$
Checking options one by one we get,
x = 5 satisfies this.

Sol.228.(a) LCM (6, 12, 16) = 48
48 × 7 = 336 and 48 × 8 = 384
So, the required numbers between 300 and 400 are 336 and 384.
Sum of these numbers = 336 + 384 = 720

Sol.229.(c)
448 - 11 = 437, 678 - 11 = 667,
908 - 11 = 897
HCF (437, 667, 897) = 23
147 = 23 × 6 + 9
So, required remainder = 9

Sol.230.(c) 4672 - 3820 = 852
6163 – 4672 = 1491, 6163 – 3820 = 2343
Greatest number x = HCF (852, 1491, 2343) = 213
1035 = 213 × 4 + 183
So required Quotient = 4

Sol.231.(b) Required number is the HCF of (1992 - 12) and (233 - 13).
HCF of 1980 and 220 = 220
So, the required number = 220.

Sol.232.(c)
For a number to be divisible by 3, 7 and 11 it should be divisible by 231
And on dividing 67600 by 231 we get remainder as 148
So the next multiple is at the distance of 231 - 148 = 83
The next multiple is 67600 + 83 = 67683
So, x = 8 and y = 3
3x - 5y = 24 - 15 = 9

Sol.233.(a) If a number is divisible by 3 then its sum should also be divisible by 3
5 + 3 + 0 + 6 + P + 2 = 16 + P
Least value = P = 2
as 16 + 2 = 18 (divisible by 3)
Maximum value P = 8
as 16 + 8 = 24 (divisible by 3)
Difference in Square = 64 - 4 = 60

Sol.234.(c) 72 = 8 × 9
For divisibility of 8, last 3 digits should be divisible by 8
Possible value of y = 3 and 7
For divisibility of 9, the sum of digits should be divisible by 9.
9 + 4 + x + 2 + 9 + 3 + 6 = 9 or its multiple
x = 3 (x = y)
Check with 7
9 + 4 + x + 2 + 9 + 7 + 6 = 9
or its multiple x = 8
So , 2x + 3y = 2(8) + 3(7) = 37

Sol.235.(a) For divisibility of 3, the sum of digits should be divisible by 3
4 + 5 + 0 + 8 + 2 + k = multiple of 3
19 + k = multiple of 3
Possible value of k = 2, 5, 8
Required Answer = $8^2 + 2^2 = 68$

Sol.236.(a) P = 2x , Q = 3y
P × Q = 6xy
6xy is divisible by 6
P × Q is also divisible by 6 but not 5
P + Q = 2x + 3y
2x + 3y is not divisible by 5 and 6
So, P + Q is not divisible by 5 and 6

Sol.237.(d) Let five consecutive odd natural numbers are
(x - 4), (x - 2), x, (x + 2), (x + 4)
$(x-4)^2 + (x-2)^2 + x^2 + (x+2)^2 + (x+4)^2 = 233 \times 5 \Rightarrow 5x^2 + 40 = 1165$
$5x^2 = 1125 \Rightarrow x = 15$,
Largest number = 19
Smallest number = 11
Average = 15

Sol.238.(d) LCM of 3, 7, 11 = 231
When 59399 is divided by 231,
Reminder = 32
Required number = 59399 - 32 =59367
Compare 59367 with 593ab