

# MAHARASHTRA

## NATIONAL TALENT SEARCH EXAMINATION 2017-18

### MENTAL ABILITY TEST ANSWER KEY

<b>QUE.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>ANS.</b>	1	4	1	4	2	4	3	1	4	1
<b>QUE.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>ANS.</b>	2	2	1	3	2	2	4	3	4	3
<b>QUE.</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>ANS.</b>	3	1	3	2	2	3	1	3	2	4
<b>QUE.</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>
<b>ANS.</b>	3	1	3	2	3	4	2	3	1	1
<b>QUE.</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>44</b>	<b>45</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>
<b>ANS.</b>	2	1	4	2,4	2	1	1	3	4	3

### MENTAL ABILITY SOLUTIONS

1. (1) FN

<b>Logic</b>	B J	D L	H P	P X	F N
	2 10	4 12	8 16	16 24	32 40

32 = 26 + 6 = F  
40 = 26 + 14 = N

2. (4)

+4	+4	+4	+4
AYCD	EUGH	IQKL	MZBC

MZBC  
(3<sup>rd</sup> placed - 1) will give 2<sup>nd</sup> place and opposite like B - 1 = A opposite Z.

3. (1)

Only 141 is not a prime no.

4. (4)

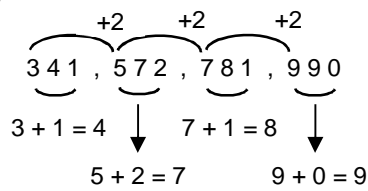
Sum of all number  
6 + 1 + 3 + 1 = 11  
2 + 1 + 9 + 1 → 13  
3 + 3 + 1 + 2 → 9  
3 + 1 + 6 + 4 → 14 (14 is even)

5. (2)

4	8	12	16
D	H	L	P
6	14	21	28
F	N	U	B
11	22	33	44
K	V	G	R

G 33 → 26 + 7  
R 26 + 18 → R

6. (4)



7. (3)

155 by BODMAS

$$\frac{200}{5} + 25 + 20 \times 5 - 10$$

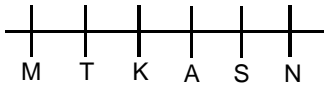
8. (1)

4 side divided into 4  
10 side divided into 10

9. (4)

Mirror image + Centre rotating

10. (1)



11. (2)

$$\left( \begin{array}{c} 1(6\ 5) \\ 1(3\ 1) \\ 2(3\ 4) \end{array} \right) \text{ difference}$$

5 3 3

Similarly  $\frac{2}{7} \frac{6}{9} \frac{2}{1}$

12. (2)

Logical

13. (1)

$$\frac{B\ E\ A\ T}{2\ 5\ 1\ 20} = 2 + 5 + 1 + 20 = \frac{28}{4} = 7$$

Logic → Sum of all place then divide by 4.

14. (3)

Logic Pattern N K M L J O Q P K

15. (2)

Logical

16. (2)

S O L V E  
+0 +1 +2 +3 +4 logic  
S P N Y I

17. (4)

L A R G E  
-1 -1 -1 -1 -1  
K Z Q F D

18. (3)

Logical

19. (4)  
Logical
20. (3)  
8
21. (3)  

$$\begin{array}{cccc} 9 & 10 & 34 & 35 \\ \hline 57 & 58 & 66 & 67 \\ \hline 61 & 44 & 48 & 63 \end{array}$$
22. (1)  
See the logic of the numbers from pattern.
23. (3)  
 $27 \rightarrow 2 \times 5 + 2 \times 2 \times 3 + 1 \times 5$
24. (2)  
13
25. (2)
26. (3)  
 $N^2 - 8$
27. (1)  
Logic pattern
28. (3)  
 $2 \times 2 + 2 \rightarrow 6$   
 $6 \times 3 + 3 \rightarrow 21$   
 $21 \times 4 + 4 \rightarrow 88$   
 $88 \times 5 + 5 \rightarrow 445$
29. (2)  
 $2^2 + 2 \rightarrow 6$   
 $3^3 + 3 \rightarrow 30$   
 $4^2 + 2 \rightarrow 18$   
 $5^3 + 3 \rightarrow 128$   
 $6^2 + 2 \rightarrow 38$
30. (4)  
02, 13, 34, 56  
Check row and column.
31. (3)  
11, 13, 67, 69  
Check row and column.
32. (1)  
1 October was Monday So, 4 November will be Sunday
33. (3)  
All boxes shifting one down the column.
34. (2)  
Logical
35. (3)  

$$\left. \begin{array}{ccc} A & M & K \\ S & P & J \end{array} \right\} +18, +3, -1$$
  
Similarly,
$$\left. \begin{array}{ccc} K & N & M \\ C & Q & L \end{array} \right\} +18, +3, -1$$

36. (4)

$$\left. \begin{array}{l} N \ 9 \ M \\ P \ 11 \ Q \end{array} \right\} +2, +2, +4$$

Similarly,  $\left. \begin{array}{l} K \ N \ M \\ C \ Q \ L \end{array} \right\} +2, 12, +4$

37. (2)

6 km (Direction sense test question)

38. (3)

Logic	0001	0011	0111	1111
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39. (1)

PLAYERS	Foot Ball	Base Ball	Cricket	Volley Ball	Hockey
Hemant	√	√	x	√	√
Madhav	x	√	x	√	√
Govind	x	x	√	√	√
Ramesh	√	√	√	√	x
Anant	√	√	x	x	x

40. (1)

PLAYERS	Foot Ball	Base Ball	Cricket	Volley Ball	Hockey
Hemant	√	√	x	√	√
Madhav	x	√	x	√	√
Govind	x	x	√	√	√
Ramesh	√	√	√	√	x
Anant	√	√	x	x	x

41. (2)

Logical

42. (1)

Logical

43. (4)

Folding logic

44. (2) & (4) both option are correct

45. (2)

$$\left. \begin{array}{l} 13 \rightarrow 1 + 3 = 4 \\ 19 \rightarrow 1 + 9 = 10 \end{array} \right\} \text{So, } 10 - 4 = 6$$

$$\text{Similarly, } \left. \begin{array}{l} 31 \rightarrow 3 + 1 = 4 \\ 37 \rightarrow 3 + 7 = 10 \end{array} \right\} \text{So, } 10 - 4 = 6$$

46. (1)

$$8^2 \rightarrow 64$$

$$7^3 \rightarrow 343$$

$$7^2 \rightarrow 49$$

$$6^3 \rightarrow 216$$

Similarly,  $6^2 \rightarrow 36$   
 $8^3 \rightarrow 512$

47. (1)

Logic unfolding

48. (3)

Logical

49. (4)

Logical Venn Diagram

50. (3)

Logical Venn Diagram