Question 1. By increasing growth rate:
$(\log \log n)^2$, $\log n$, $n(\log n)^2$, $n\sqrt{n}$, $\{n^2, 2^{2 \log n}\}$, 2^n

Question 2. Deepest leaf is at $\log_3 n$; least-depth leaf is at $\log_9 n = (\log_3 n)/2$; $T(n)$ is $O(n)$.

Question 3. $T(n) = T(n/3) + T(2n/3) + cn$. $T(n)$ is $O(n \log n)$.

Question 4. If $X = a\ b\ a\ c\ l\ a\ v\ a$ and $Y = b\ l\ a\ b\ l\ a$ then the c table is:

0	0	0	0	0	0	0
0	0	0	1	1	1	1
0	1	1	1	2	2	2
0	1	1	2	2	2	3
0	1	1	2	2	2	3
0	1	2	2	2	3	3
0	1	2	2	2	3	4
0	1	2	2	2	3	4
0	1	2	2	2	3	4

If your exam booklet had $X = b\ l\ a\ b\ l\ a$ and $Y = a\ b\ a\ c\ l\ a\ v\ a$ then c is the transpose of the above (i.e., a 7×9 matrix whose ith row is the ith column of the above).

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