Examining for a Tremor

Question
I am currently revising for my finals. In previous OSCE’s for my medical school they have asked students to examine a tremor. How would you go about this? I have tried looking this up in textbooks and on the web but cannot find a set examination.

Response
I’d do something along these lines:

1) General inspection
2) Arms outstretched - finger spread
3) Arms outstretched- wrists extended
4) Finger-nose test
5) Finger tips together test
6) Check function (pick up object, writing)
7) Ask to see patient walk

Rationale:

1) Inspect - general and at rest
Patient at rest with hands on lap- looking for a REST tremor- typical of Parkinson's disease- usually unilateral at presentation and with a 5Hz pill-rolling quality. Also checking for other Parkinsonian features- poverty of facial expression, flexed posture etc. If present, check tone at wrist by rapid flexion and extension looking for cog-wheeling- may be re-inforced by synkinesis ie asking patient to move other hand up and down ("Would you tap your knee with your other hand?")

General inspection might also reveal features of Graves disease- eye signs and a goitre, but the tremor may not always be visible at rest with hands on lap.

Note any titubation- head nodding- which is often associated with benign essential tremor (eg half the cases have it)

There might also be evidence of lip smacking or other abnormal movements of face, mouth and tongue- which might suggest the tardive dyskinesia associated with prolonged use of tranquillisers.

Rarely you might see the writhing movements of athetosis, the jerky movements of chorea or the wild movements of whole arm (hemiballismus- usually due to a CVA affecting the subthalamic nucleus).

If athetoid or dystonic movements are seen, check the eyes for the Kayser-Fleischer rings of Wilson’s disease.

2) Arms outstretched - fingers spread
Ask patient to hold hand out in front of them and spread the fingers: this often reveals a fine tremor of thyrotoxicosis. If so go on to look for clubbing (acropachy), feel palms for sweating and check pulse for tachycarida and atrial fibrillation. Fine tremor (exaggerated physiological tremor) may also occur with anxiety and with alcohol withdrawal.
Asking the patient to stretch out the arms may reveal ataxia of one or both sides. If present, go on to examine for other cerebellar signs (nystagmus, finger-nose testing etc)

3) Arms outstretched- wrists extended
Ask patient to continue holding hands outstretched, but now ask patient to cock their wrists back. This often reveals a coarse metabolic tremor eg flapping tremor of CO2 retention or liver failure (asterixis- irregular jerky movements)

4) Finger-nose test
Ask the patient to do the finger nose test- sometimes subtle cerebellar signs may only be apparent as an intention tremor ie at the end of the trajectory as the patient's arm extends fully to touch the examiner's finger. It is present on action but increasing as the finger reaches its target- "terminal intention tremor". This is most obvious when the examiner keeps his or her finger in one position and moves the finger from close to the patient to a distance which is at full arm's length away. There is little advantage in wildly moving your finger all over the place! The main point to note is that the movement is also inaccurate ie may miss the target- "past pointing".

Benign essential tremor is very common: it is an ACTION tremor so although the tremor is present at rest, it will become much more apparent on active movement - may be present throughout the range of movement of the finger nose test (not just at the extreme- and despite the tremor the movement is accurate).

5) Finger tips together test
This is a useful "optional extra". Ask the patient to stick their elbows out to the side and bring their index finger tips together in front of them. This gives similar information to the finger nose test, but here both sides are compared directly so any difference is obvious and many tremors may be exaggerated with this test.

6) Check function
Ask the patient to pick up an object to assess degree of functional effect of tremor or to write something or draw a five point star (if you suspect liver failure).

7) Ask to see patient walk
Ask if you may see the patient walk- other features eg Parkinsonian gait, akithisia (restless walking associated with phenothiaizines)

Note:
The classification of tremor into rest tremor, postural tremor, action tremor and intention tremor is a bit confusing as any tremor may be present in several of these situations. However it is worth noting in which situation the tremor is most obvious as this can give a clue eg Parkinson's most obvious at rest, benign tremor most obvious on doing something and cerebellar tremor worse at the end of an inaccurate movement.