Explain the functions and restrictions of the reticular activating system (ras) e...

Explain the functions and restrictions of the Reticular Activating System (RAS) The Reticular Activating System (RAS) is basically a part of the brain that mainly consists of cholinergic and ascending noradrenergic projections that originate in the brainstem (Berntson et al., 2008). These projections go into the thalamus, cortex, and basal forebrain, and functions as a mediator in the increase of arousal, motivation, and wakefulness or consciousness. In the cerebral cortex, it also maintains a state of alertness to bodily stimuli (Answers. com, 2008).

The RAS is located at brain stem’s core, specifically between the mesencephalon or midbrain and myelencephalon or medulla oblongata (Answers. com, 2008). In addition, the reticular formation of the RAS is mainly a network of neurons that are loosely arranged and are spread throughout the brain steam where nuclei or particular neural tracts are not present.

It is highly essential in the maintaining a conscious state in an individual and also functions in the cortex’s activation as well as in maintaining the tone of the antigravity muscles (Best, 2008). Furthermore, it also modulates pain and assists in heartbeat and breathing regulation (Best, 2008).
Moreover, the RAS is also highly involved in the circadian rhythm of humans (Answers. com, 2008). However, it also has restrictions in its role in the state of consciousness. Despite the fact that the RAS has to function first before consciousness can occur, it cannot generate consciousness by itself (Best, 2008).

Instead, it ensures that the thalamocortical system functions in a way that can match the experience of consciousness (Best, 2008). In other words, while the RAS is considered a prerequisite in order for consciousness to occur, it cannot do it on its own and instead assumes an indirect role in the triggering of consciousness. ReferencesAnswers. com (2008). Reticular Activating System. Retrieved October 13, 2008 from http://www. answers.

com/topic/reticular-activating-system. Best, B. (2008). Brain Areas Supporting Cerebral Cortex Function. Retrieved October 13, 2008 from http://www. benbest.

com/science/anatmind/anatmd7. html. Bernston, G. G., Bruno, J. P.

, & Sarter, M. (2008). Reticular Activating Sytem. Love Psych. Retrieved October 13, 2008 from http://love. psy. utexas. edu/~love/ECS/Vol3/A0401. pdf.