A. Explain in detail the process state transition in an Unix OS, and draw a neat diagram illustrating the various states a process can go through during its execution.

B. Evaluate the significance of the process address space manipulation in Unix, explaining how it enables memory allocation, deallocation, and sharing among processes.

C. Demonstrate the steps involved in saving the context of a process in a Unix operating system.

D. Analyze the significance of the fork system call in operating systems. Elaborate on the intricate sequence of operations carried out by the kernel when initiating the fork system call.

E. Describe the process of system boot and explain the role of the Init process in initializing an operating system

F. Explain the swapping of a process between swap space and main memory?

G. Write short note - Demand paging

H. Design a diagram illustrating the system memory layout in Unix, including the text, data, stack segment and any other relevant components.

I. What is the use of signal? Explain the types of signals?