Question:

PUCIT is currently running through different departments like Administration, Accounts, Examination, Admission, Library, Computer Labs, Faculty Management, and Student Management etc. Every department has its own specific process and each department is using computer-based system to some extent. It is decided by the higher management that all the departments should be integrated under one system where they must work independently. Higher Management wants to see this system within this year. Risks, which can arise, should be accommodated implicitly keeping the time factor in mind.

What Software Process Model would you choose and why? State your assumptions clearly, if any, and give logical reasons in support to your answer.

Solution:
Stated Facts:

1. System is decomposed in different components
2. Every Component is automated to some extent but running stand alone
3. Management wants a system under which all components will run independently
4. Time constraint is there
5. Risk will be accommodated implicitly

Assumptions:

1. As components are automated to some extent, even then these components will be restudied and analyzed, so that these can be run under one system independently.
2. There will be system level interface to access components but rights of each user will be specified and restricted as per user policy.
3. Team resources are sufficient available through which parallel development can occur.
4. Since components are already automated to some extent, so historical data will certainly help us to understand the components. Similarly risks occurrence will be reduced.

Selected Process Model:

"RAD Model"

Reasons for selecting RAD Model:

1. As the system is already decomposed into components, so it will be feasible for us to make RAD team for each component as we have sufficient human resources.
2. Time constraint is there, RAD approach will suit us to complete the project with in specified time.
3. RAD model uses the modeling approach in which already done work can be accommodated easily. Further more through modeling we can easily understand the already done work and can suggest further recommendations by using pictorial form of modeling in understandable and efficient way.
4. Some work has already done on the components, so it will be quiet easy for us to understand the requirements, which will be a support for us to use the linear sequential model's elements of RAD model.
5. Since we are using RAD Model, so we will save effort, time, and finance involved in the project.

Project Working:

At the start of project, one team will immediately develop the system level interface so that each component can be plugged in that system level interface. Other teams will carry on their work on respective components simultaneously. When system level interface will be prepared and architecture of the software will be finalized, it will be shared to all RAD teams, and each team will follow the system level constraints while developing their respective module. When all teams will complete their work, all components will be integrated and system level testing will be carried out.