Total Number of Pages: 02   **B.Tech.**
                                                                               PCIT4402

7th Semester Regular/Back Examination 2017-18
Software Project Management
BRANCH: CSE, IT, ITE
Time: 3 Hours
Max Marks: 70
Q.CODE: B268
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1   **Answer the following questions:**   **(2 x 10)**
  a) Suppose you are the project manager of a small team developing a business application. Assume that you have experience in developing several similar products. If you are asked to make a choice between democratic and chief programmer team organizations, which one would you adopt for your team? Explain your reasoning.
  b) What is Red/Amber/Green (RAG) reporting?
  c) Putnam suggested that when the schedule of a project is compressed, the required effort increases in proportion to the fourth power of the degree of compression. Justify the statement.
  d) What is fixed price contract?
  e) ISO 9126 identifies six major external software quality characteristics. State them.
  f) What is the difference between a version and a revision of a software product? Explain with a suitable example.
  g) Calculate the return on investment for two projects, A and B respectively. Project A has a net profit of Rs. 60,000 with an initial investment of Rs 1, 00,000. Project B has a net profit of Rs. 75,000 with an initial investment of Rs 1, 20,000. Both the projects span over a time of 5 years. Decide which, on the basis of this criterion, project is worthwhile.
  h) Differentiate between the two testing techniques- verification and validation.
  i) Describe the Herzberg's two-factor theory.
  j) Distinguish risk mitigation from risk reduction.

Q2 a) A few years ago, Sun Microsystems decided to develop and market StarOffice, a set of desktop tools that would be comparable to Microsoft's Office suite of tools but would be targeted for UNIX rather than Windows. At that time, no other major UNIX vendor had developed or was planning to develop such a product.
Assuming yourself to be a part of the development team, what process model would you have used? Justify your answer.   **(5)**
  b) The effectiveness of a team in achieving the project objectives is significantly affected by how a department is organized into teams. Discuss about the department structure.   **(5)**

Q3 a) What is configuration of a software product? Discuss the configuration management activities.   **(5)**
  b) What is leadership? How can power be classified?   **(5)**

Q4 a) What is risk? Describe the *sociotechnical* model of risk classification as proposed by Lyytinen.   **(5)**
  b) Discuss the different modes through which a project manager can represent the data about the progress of the project.   **(5)**

Q5 **a)** Describe the Oldham – Hackman Job Characteristics Model. **(5)**
b) Describe the stages in contract placement. **(5)**

Q6 **a)** Discuss the Capers Jones estimating rules of thumb. **(5)**
b) Discuss about the Earned Value Analysis. **(5)**

Q7 Three recent university graduates have formed a partnership and have **(10)**
opened a start-up firm. The information in the following table pertains to their
project that is about to commence.

Activity	Immediate Predecessor(s)	Estimated Duration (days)
A	—	15
B	. A	12
C	B	6
D	B	5
E	C	3
F	—	8
G	F	8
H	F	9
I	G	7
J	H	14
K	J	6

Draw the precedence network diagram.

As a project manager, which activities would you be concerned with in terms
of timely project completion? Explain.

Determine the following values for each activity: the earliest start time, the
earliest finish time, the latest start time, the latest finish time, and the activity
slack time.

As a project manager, where would you use a Gnatt chart and a PERT chart?

Q8 **Write short answer on any TWO :** **(5x2)**
a) Monte Carlo Simulation
b) COCOMO II
c) Software Reliability
d) Project termination process