University of Mumbai
Examination June 2021
Examinations Commencing from 1st June 2021

Program: Information Technology
Curriculum Scheme: Rev 2016
Examination: TE Semester VI
Course Code: ITC601 and Course Name: Software Engineering with Project Management
Time: 2 hour Max. Marks: 80

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Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	Which model combines linear and parallel flow?
Option A:	Waterfall
Option B:	Incremental
Option C:	Spiral
Option D:	Prototyping
2.	Which type of components will you use if Existing specifications, designs, code developed for past projects are similar to the software to be built for the current project
Option A:	Full-experience
Option B:	OTS
Option C:	Partial-experience
Option D:	New components
3.	With reference to Software Design Classes: _____ provide refinements of analysis classes
Option A:	User interface classes
Option B:	Business domain classes
Option C:	Process classes
Option D:	System classes
4.	A specification or product that has been formally reviewed and agreed upon, that thereafter serves as the basis for further development, and that can be changed

	only through formal change control procedures is called _____ .
Option A:	Software configuration item
Option B:	Baseline
Option C:	Software configuration model
Option D:	SCM process
5.	Which is not content of RFP?
Option A:	Statement of Work and Proposal Requirements
Option B:	Contractual Provisions
Option C:	Technical Information or Data
Option D:	Time line chart
6.	Project-Oriented Scope create
Option A:	Deliverable definition table
Option B:	Decision structure chart
Option C:	PERT chart
Option D:	Gantt chart
7.	As per revised PMI guidelines WBS should be
Option A:	Fixed
Option B:	Flexible
Option C:	Temporary
Option D:	not a part of Project Management.
8.	DSC stands for
Option A:	Decision structure chart
Option B:	Data structure chart
Option C:	Deliverable structure chart
Option D:	Design structure chart

9.	The prototyping model of software development is useful in which situation?
Option A:	Useful when requirements are not clear
Option B:	Useful when requirements are well defined
Option C:	Useful when projects with large development teams
Option D:	Useful when risk involves
10.	The “meta-questions” proposed by Gause and Weinberg refers to the questions which focuses on
Option A:	Customer and other stakeholders
Option B:	Effectiveness of the communication activity itself
Option C:	Customers perceptions about solution
Option D:	Meta model
11.	Information Hiding does NOT
Option A:	reduce the likelihood of “side effects”
Option B:	limit the global impact of local design decisions
Option C:	emphasize communication through controlled interfaces
Option D:	encourage the use of global data
12.	The set of activities that have been developed to manage change throughout the life cycle of computer software are _____.
Option A:	Software maintenance management
Option B:	Software configuration management
Option C:	Software testing
Option D:	Software life cycle management
13.	Sequence of scope management process is
Option A:	Scope initiation, planning, definition, verification and change control
Option B:	Scope verification, initiation, planning, definition and change control

Option C:	Scope planning, definition, verification, change control and planning
Option D:	Scope change control, verification, initiation, planning and definition
14.	WBS includes
Option A:	Only deliverables
Option B:	Only milestones
Option C:	Only executables
Option D:	Both deliverables and milestone
15.	Refactoring refers to _____
Option A:	Modification to internal design
Option B:	Pair Programming
Option C:	Encapsulation
Option D:	Component reusability
16.	Calculate the function point (FP) for the given information domain. Number of External Inputs (EI):15, Number of External Outputs (EO):12, Number of external inquiries (EQ):17, Number of internal files (ILF):6, Number of external interfaces (EIF):3. Assume the weighting factor to be average (4, 5, 4, 10, 7). The value adjustment factor is 46.
Option A:	399
Option B:	199
Option C:	299
Option D:	200
17.	When software is refactored, the existing design is examined for 1) redundancy 2) unused design elements 3) inefficient or unnecessary algorithms
Option A:	Only 1 is correct
Option B:	Only 1 and 3 are correct
Option C:	Only 1 and 2 are correct
Option D:	All 1,2 and 3 are correct

18.	In unit testing, if called/child module is not ready, dummy module will acts as called/child module, what is the name given to dummy module in unit testing?
Option A:	Stub
Option B:	Driver
Option C:	Sample module
Option D:	Reference module
19.	Project Charter is
Option A:	The deliverable for the second phase of the IT project methodology
Option B:	The deliverable for the first phase of the IT project methodology
Option C:	The deliverable for the third phase of the IT project methodology
Option D:	The deliverable for the fourth phase of the IT project methodology
20.	In AOA
Option A:	arrow represent activity and node represent event
Option B:	arrow represent event and node represent activity
Option C:	arrow represent dependency and node represent event
Option D:	arrow represent flow and node represent estimate

Q2.	**(20 Marks)**
A	**Attempt any two from following.** **(5 marks each)**
i.	Write a short note on Aspect Oriented Software Development.
ii.	Comment on Collaborative Requirement Gathering process.
iii.	Describe in brief Call and Return software architecture.
B	**Solve any One** **(10 marks each)**
i.	Explain how and why the analysis model is translated into design model.
ii.	Describe in detail the process of developing a business case.

Q3.	(20 Marks)
A	**Attempt any two from following.** **(5 marks each)**
i.	Enlist and explain in brief Characteristics of Testability of a software.
ii.	Describe how a project life cycle is associated to software development life cycle.
iii.	Comment on RMMM planning.
B	**Solve any One** **(10 marks each)**
i.	Explain how function points may be used for estimating cost and efforts required for a project.
ii.	For the following table calculate expected duration of each activity and find the critical path.

Activity	*Predecessor*	*Optimistic Estimates (Days) a*	*Most Likely Estimates (Days) b*	*Pessimistic Estimates (Days) c*
A	None	1	2	4
B	A	3	5	8
C	B	2	4	5
D	B	2	3	6
E	B	1	1	1
F	C, D	2	4	6
G	D, E	2	3	4
H	F, G	1	2	5
I	G	4	5	9
J	H, I	.5	1	3