Bharati Vidyapeeth's
Institute of Computer Applications and Management (BVICAM)
A-4, Paschim Vihar, New Delhi-63
SECOND SEMESTER [MCA] Internal Examination, May 2023

Paper Code: MCA–104	Subject: Object Oriented Software Engineering

Time: 2 Hours	Maximum Marks: 45

Note: Attempt THREE questions in all. Question No. 1 is compulsory, and attempt one question from each unit.

1.		Answer all the following questions briefly: -		1.5 × 10 = 15
	(a)	Enlist the different kinds of projects, a project manager is expected to manage?		CO2
	(b)	"UML is a process that produces models." Elaborate a comparison between the terms process and model?		CO2
	(c)	What end result is expected at the end of the inception phase?		CO2
	(d)	Elaborate the significance of critical path in a PERT chart?		CO2
	(e)	Enlist the different adornments to an association?		CO1
	(f)	Why are UML models also called metadata?		CO1
	(g)	State the importance of specification in UML?		CO1
	(h)	Justify whether UML is a closed language or open?		CO1
	(i)	Explain the aggregation relationship in contrast to generalization?		CO1
	(j)	Elaborate the need of varied objects in the analysis model?		CO2

UNIT - I

2.	(a)	Compare traditional software development life cycle models with object oriented life cycle models?	5	CO1
	(b)	Through suitable example elaborate the different building blocks of the UML?	5	CO1
	(c)	Explain the object oriented view of system architecture?	5	CO1
3.	(a)	Justify the statement, "Architecture of a software intensive system can be best described by 5 interlocking views"?	5	CO1
	(b)	Differentiate between a process and model?	5	CO1
	(c)	Explain the different relationships possible in a UML diagram?	5	CO1

UNIT - II

4.	(a)	Justify the statement, "System development is based on model building"?	5	CO2
	(b)	Suppose we want to develop software for an alarm clock. The clock shows the time of day. Using buttons, the user can set the hours and minutes fields individually, and choose between 12 and 24-hour display. It is possible to set one or two alarms. When an alarm fires, it will sound some noise. The user can turn it off, or choose to 'snooze'. If the user does not respond at all, the alarm will turn off itself after 2 minutes. 'Snoozing' means to turn off the sound, but the alarm	10	CO2

		will fire again after some minutes of delay. This 'snoozing time' is pre-adjustable. Identify the top-level functional requirement for the clock, and model it with a use case diagram. Describe in brief each use case?		
5.	(a)	Which association can be viewed as an interrupt in the original use case?	5	CO2
	(b)	A patient record and scheduling system in a doctor's office is used by the receptionists, nurses, and doctors. The receptionists use the system to enter new patient information when first-time patients visit the doctor. They also schedule all appointments. The nurses use the system to keep track of the results of each visit including diagnosis and medications. For each visit, free form text fields are used captures information on diagnosis and treatment. Multiple medications may be prescribed during each visit. The nurses can also access the information to print out a history of patient visits. The doctors primarily use the system to view patient history. The doctors may enter some patient treatment information and prescriptions occasionally, but most frequently they let the nurses enter this information. -- Each patient is assigned to a family. The head of family is responsible for the person with the primary medical coverage. Information about doctors is maintained since a family has a primary care physician, but different doctors may be the ones seeing the patient during the visit. Identify the top-level functional requirement for the clock, and model it with a use case diagram. Describe in brief each use case?	10	CO2