Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Science / Engineering

End Sem Examination Dec 2024

CA3CO03 Computer Fundamentals

Programme: BCA / BCA-MCA (Integrated) Branch/Specialisation: Computer Application

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

			Marks	BL	PO	CO	PSO
Q.1	i.	Which component is responsible for performing arithmetic calculations? (a) Input unit (b) Control unit (c) Arithmetic logic unit (d) Output unit	**1**	1	2	1	
	ii.	In a computer, which part is considered the "Brain"? (a) Hard Disk (b) CPU (c) Motherboard (d) RAM	**1**	1	1	1	
	iii.	What is a process in the context of operating systems? (a) A program in execution (b) A collection of data (c) A memory storage location (d) A hardware component	**1**	2	3	4	
	iv.	Which of the following is an example of operating system? (a) Amazon Prime (b) Netflix (c) Android (d) Spotify	**1**	2	3	4	
	v.	Which of the following is an example of a Trojan? (a) Anti-virus software (b) Malware disguised as legitimate software (c) Operating system (d) Web browser	**1**	2	2	3	

vi.	Which attack floods a system with network traffic to exhaust resources, leading to service disruption? (a) Phishing (b) DoS (Denial of Service) (c) SQL Injection (d) Ransomware	**1**	1	1	2
vii.	Which of the following is an example of a file-oriented system? (a) Microsoft access (b) Manual filing system (c) MySQL (d) Oracle	**1**	2	3	4
viii.	Which term is used to define the person responsible for managing a database system? (a) Network Administrator (b) Data Scientist (c) Database Administrator (DBA) (d) Systems Analyst	**1**	2	2	2
ix.	In cloud computing, which model provides infrastructure as a service? (a) SaaS (b) PaaS (c) IaaS (d) DaaS	**1**	1	2	2
x.	Which of the following is a CSP (Cloud Service Provider)? (a) Bella Ciao (b) AWS (c) Vibes FR (d) Tysm Technologies	**1**	1	2	2

Q.2	i.	List down four main components of a computer system.	**2**	2	2	1
	ii.	Write any three differences between primary and secondary memory.	**3**	3	2	2
	iii.	Draw the block diagram of general computer system.	**5**	2	3	3
OR	iv.	List down the generations of computer system along with their timelines, evolving hardware (core component) and example in a tabular form.	**5**	2	2	1

Q.3	i.	Define operating system. Write down two examples of OS.	**2**	2	3	3
	ii.	Describe the various types of communication channels used in computer networks along with their diagrams.	**8**	3	2	3
OR	iii.	Explain the different types of operating systems. Discuss the following types: batch operating systems, time-sharing operating systems, distributed operating systems, and network operating systems.	**8**	2	3	3
Q.4	i.	Explain two common types of cyber-attacks: Denial of Service (DoS) and Phishing.	**3**	2	3	3
	ii.	What do you mean by Money Laundering? Explain all three phases in detail with diagram.	**7**	3	2	3
OR	iii.	Describe seven preventive measures to secure a system from malware attacks.	**7**	2	3	3
Q.5	i.	Write any four differences between the File-Oriented approach and the Database-Oriented approach.	**4**	4	3	3
	ii.	Explain all three architectures of a DBMS and write down three roles of the Database Administrator (DBA).	**6**	2	3	4
OR	iii.	What is a data dictionary? Discuss the types of data models used in a DBMS, with a brief explanation of each with suitable diagrams.	**6**	3	3	5
Q.6		Attempt any two:				
	i.	Explain the service models in cloud computing, focusing on IaaS, PaaS, and SaaS.	**5**	2	2	2
	ii.	Describe different types of cloud deployment models (Public, Private, Hybrid, Community).	**5**	2	3	2
	iii.	Discuss five pros and cons of cloud computing.	**5**	3	2	2

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Marking Scheme
CA3CO03 (T) Computer Fundamentals (T)

Q.1	i)	c) Arithmetic Logic Unit	**1**
	ii)	b) CPU	**1**
	iii)	a) A program in execution	**1**
	iv)	c) Android	**1**
	v)	b) Malware disguised as legitimate software	**1**
	vi)	b) DoS (Denial of Service)	**1**
	vii)	b) Manual Filing System	**1**
	viii)	c) Database Administrator (DBA)	**1**
	ix)	c) IaaS	**1**
	x)	b) AWS	**1**

Q.2	i.	Four names of components. Half mark for one component.	**2**
	ii.	Three differences between primary and secondary memory. One mark for each difference.	**3**
	iii.	Only block diagram to be made. One mark for showing ALU, One mark for showing CU,One mark for showing MU,One mark for showing Input Unit,One mark for showing Output Unit.	**5**
OR	iv.	{One mark for single generation (Including Generation Name i.e. for example – First Generation, Timeline, Evolving Hardware (core component) and Example of Device/Computer System)}x5	**5**
Q.3	i.	One mark for definition of OS. Half marks for each example.	**2**
	ii.	Two marks for every single Guided media with diagram i.e. (Twisted pair, Coaxial and Optical Fiber) and Half mark for every single Unguided media i.e. (Infrared, Radio Waves, Micro Wave, Satellite).	**8**
OR	iii.	Two marks for every single type of OS.	**8**
Q.4	i.	One and half mark for DoS, One and half mark for Phishing.	**3**
	ii.	2 marks for each phase. One mark for diagram	**7**
OR	iii.	One mark for each preventive measure.	**7**
Q.5	i.	One mark for each difference.	**4**
	ii.	2 marks for each type of architecture i.e. One tier, two tier and three tier with respective diagrams.	**6**
OR	iii.	One mark for defining Data Dictionary. One mark for every single Data Model with diagram.	**6**
Q.6			
	i.	One and half mark for every single service model. Half mark for one illustrative diagram to be drawn at the beginning of answer for example,(Service models -> IaaS, -> PaaS, -> SaaS).	**5**
	ii.	One mark for every single deployment model and One mark (Combined) for all the diagrams.	**5**
	iii.	One mark for single pro and con i.e. advantage and disadvantage.	**5**

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