2025 SOUTH WEST REGIONAL MOCK

PROPOSED MARKING GUIDES FOR 0796 INFORMATION AND COMMUNICATION TECHNOLOGIES PAPER 1 AND 2

Question			
1	a) ✓✓✓✓(4 marks)	b) ✓✓	c) ✓(1 mark)
(i)	Malware: Malicious software that infects electronic devices enabling intruders to secretly carry harmful attacks or actions on the computer, server and network.eg trojan horse, spyware, worm, logic bomb etc. Firmware: software embedded into hardware components to control the way they function eg BIOS, flash memory chip, software in smart watches, smart TV, washing machines etc	-Slows down the computer - Programs crashing - Strange programs appear in your machine	- Regularly update your system -use malware protection software - Download from trust worthy sites etc - Don't download pirated files or suspicious sites and pop-ups etc
(ii)	a) ✓(1mk)	b) ✓✓✓✓(4mks) 2mks for pos. pts, 2mks for neg. Pts.	
	AI: Science of making machines to think and behave like human.	Social implications: Positive implications - Increases accessibility to learning process and material - Customisation of learning - Access to organised information - Encourages interactive learning and real-time or instant feedback - Access to education for students with special needs thus bridge the gap between normal students and those with social situation. Negative implications. - Privacy and security concern on the use of student's data; insufficient measures to guarantee private data. - Limits student- teacher interaction with over dependent on AI; absence of emotional bonds; l Lack of human contact. - Digital divide: Creates educational gap between students with access to AI tools and those that don't have. - Mitigation of academic integrity: students use AI to generate content or do assignment without proper understanding of how it is done. - Lack of clear regulation in the use of AI in teaching.	
(iii)	a) ✓✓✓(3mks)(1 mk for simil. & 2mks for diff.)	b). ✓✓✓(4mks) 2mks for adv. & 2mks for disad.	
	Similarity - Both use gradual approach to introduce the new system - Break down conversion	Phased advantages: - Minimises impact of system failure on activities as risks are identified and addressed early - Avoids problems resulting from	

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	process into smaller units - Gets feedback from user for refinement before final implementation. - Reduces huge risk of failure in both. Differences: - Phased introduces the system module by module. - Pilot introduces the system to a smaller unit of the population. Eg department, branch etc.	installing the entire new system - Minimises disruption to workflow - Enables proper testing and debugging before adopting. Disadvs. - Time consuming - Temporal distortion of workflow switching from old to new system. - High initial costs Pilot: Advantages - Identification of potential risk before full implementation - Feedback are addressed to improve quality - Testing the system in its working environment provide realistic feedback etc Disadvantages - Costly to implement - Time consuming - Feedback of testing in smaller scale may not be true representation of the entire organisational reality etc		
2	a)	b) Any 2 types ✓✓mks	c) ✓✓mks	d) ✓mk
(i)	Manages hardware and other software installed in the computer	State and explain: Batch os, real time os, time sharing os, NOS, embedded os, multi-users, single user os etc	Buffering: Os stores transactions to be moved to next device Spooling: Os arranges transaction in buffer in FIFI order	Suspends running task at the CPU
(ii)	a) ✓mk	b) ✓✓✓✓mks	c) ✓✓mks	
	Arrangement of work environment to suit worker comfort	RSI (pain on the back, wrist, finger, neck etc) resulted from: Bad posture, long work session without break, absence of ergonomic consideration in the design of work tools such as chair, machines etc.	RSI: Use of adjustable chairs, maintain good posture, regular breaks between work session. Eye strain: Distract your eye from the screen, regular break, adjust the position of	

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		Eye Strain (eye sores, blurred vision, headaches etc) resulted from: Exposure of eyes to glare from the screen and long work session without break	your monitor, reduce glare, use glare protective glasses etc	
(iii)	a)✓✓mks for any 2pts	b) ✓✓mks		
	Analyst: Understand the needs of the system, collects data, analyses data, designs the new system to meet requirement, provides technical support to users, trouble shoot the system	Programmer: Writes algorithm, develops programs for the system.		
3	a) ✓✓(2 mks)	b) 4mks (✓✓expl. Any 2 Examples of each)	c) ✓✓✓ for any 3 corr. pts	d)Imp ✓✓ Limit✓
(i)	**Digitalisation**: Automation of processes✓ Video conferencing: - Online meeting with use of audio and video tools✓	**Additional hardware:** Microphone, webCam, screen, recording devices, whiteboard Software: zoom, google meet, Webex, google team, skype.	-Checks the availability of components -Verifies the sound system -Checks the quality of video capture devices - Checks the input system(mic). - Checks the software requirement etc.	**Importance:** Improved performance, accessibility to teaching learning materials, fast decision making, skill development, flexibility of lesson delivery through various modes or experiences, impact students' creativity, problem solving etc. **Limitations;** High initial costs of installation and maintenance, Distraction, poor network
(ii)	a) ✓✓ (2mks)	b) ✓(1mk)		
	$11101.011_2 = 29.375_{10}$	Octal 3 7 0 0 4 Binary 011 111 000 000 100		
(iii)	✓✓ (2mks) for 2 correct pts.			
	BIOS carries out booting process, performs POST, loads the OS, loads the driver, check system date and time, hardware initialisation etc			
4	a)✓ (1mk) for expl & Example	b) Adv.✓Disadv.✓ (2mks)	c) Advs✓✓ for atleast 2pts Disadvs ✓ for atleast 1pt. (3 mks)	
	Social platforms that enable sharing of information, ideas, thoughts and files eg Facebook, WhatsApp, Instagram, Twitter etc	Advantages: Doctor-patient interaction, patient education, healthcare information sharing, relief from emotional trauma by creating patient support network, connect people to	Advantages: More cost effective than using physical infrastructure like cable, reliable, scalability, high bandwidth. Disadvantages:	

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		health services, discussion and illustration of health issues etc. Disadvantages: Lack of credibility of health information in social media, security and privacy risk of patient information, difficulty identifying accurate and truthful health information in social media, etc		- Reduction in signal quallity in bad weather such as rain, fog, snow, storm - Obstacle between building obstruct signals transmission - Interference noise from surrounding devices can reduce transmission speed or performance.	
(ii)	a) MICR ✓ (1mk) (Barcode ✓ (1mk) (2	b)OCR ✓(1mk) OMR ✓ (1mk)		c) ✓✓ (2mks)	
	MICR: magnetic ink character recognition. Processes information on cheque booklet in banks. Barcode reader.; Reads and convert information from product codes into digital information in supermarkets	OCR: Optical Character Recognition. Converts hardcopy information on paper into computer or digital information in offices etc. OMR: optical mark reader. Reads marks on specially designed paper and converts into digital data. -Used in evaluation of exams, counting of vote, analysing questionnaire responses		Assessment and grading of MCQ examination, reads and extracts important information from marked areas on papers such as questionnaire, etc.	
(iii)	a) ✓✓(2mks) 1mk for each pt.	b) ✓✓ (2mks) 1mk for each pt.			
	Explain -Push for insertion -Pop for retrieval	Explain - Enqueue for insertion - Dequeue for retrieval			
5.	a) ✓✓ (2 mks)	b) ✓✓✓(3 mks) for expl. pts		C) ✓(1 mk)	
(i)	Stores instruction currently use by the CPU.	- Read/ write memory - Volatility - Temporary storage - Random access		Swapping instruction between the RAM and the Virtual memory	
(ii)	a) ✓✓✓✓(4 marks)	b) ✓✓✓(3 marks) 1mk for a pair		c) ✓(1 mark)	
	See Gantt chart below	Task / ES / EF B / Feb / May D / Jun / Aug G / Sep / Dec		12 Months	
(iii)	Impact ✓(1mk), Non-impact✓(1mk)				
	Impact: Drum, line, Dot-matrix **Non-impact**: Laser, Inkjet, Thermal				
6	a) ✓✓✓✓(	b) ✓✓(2 mks)	c) ✓(1 mk)	d) ✓✓✓✓(	e) ✓✓(2mks)
(i)	<html> <head><title>Results</title> </head> <body> <table>	<tr bgcolor = ”blue”>xxx</tr>	-Notepad Dreamweaver -Sublime -Notetab	Violation of student data privacy and security	SELECT FROM Results WHERE No. Of A grade=11

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	<tr> <th> <th>student</th> <th>Gender</th> <th>DOB</th> <th>No. Of subject passed</th> <th>No. Of A grade</th> </tr> <tr> <td>Louser</td> <td>F</td> <td>12/01/2010</td> <td>11</td> <td>11</td> </tr> <tr> <td>Nji</td> <td>M</td> <td>04/10/2011</td> <td>11</td> <td>10</td> </tr> <tr> <td>Eposi</td> <td>F</td> <td>21/02/2009</td> <td>10</td> </td>8</td> </tr> </table> </body> </html>		Webstorm etc		
(ii)	a) ✓✓(2mks)	b) ✓✓(2mks)			
	- Monitoring of patients' progress - Surgery - Drug administration - Cleaning of hospitals etc	- Detecting the speed and direction of wind - Measurement of atmospheric condition such as level of humidity, atmospheric pressure, level of precipitation, and sun shine.			
(iii)	a) ✓(1mk)	b)✓✓(2mks)		c) ✓(1mks)	
	- Identify and correct errors in each module - Reduce cost and time of testing the entire system - Facilitate system modification and maintenance	- To ensure final product meets the needs and objectives of users - Correct bug before delivery to users etc - Fixes errors to meet market standard		- Ensure compatibility of modules - Identify and fix communication errors between modules etc.	
7.	a) ✓ (1 mk)	b) ✓✓(2 marks)		c) ✓✓✓(3 marks) 1mk each pts	
(i)	- Development of company's software by	- Quality improvement - Minimises error		Conceptual model: identifies entities and attributes.	

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	third party or non member of the company.	- Reduced cost - Efficiency - Improve security	Logical; identifies entities, attributes, key fields and relationships between entities Physical: implementation of the database.	
(ii)	a) ✓✓(2mks)	b) ✓✓✓✓(	c)✓(1mk)	d) ✓✓✓✓
	Sequence: Sequential execution of algorithmic instructions. Loop: Repeated execution of block of code until the defined condition no longer exist.	Print numbers from 1 to 12	See flowchart below.	1,2,3,4,5,6,7,8,9,10,11 ,12.
(iii)	a) ✓(1mk)	b) ✓(1 mk)	c) ✓(1mk)	
	-Quick visualisation of relationships between entities - Identify the degree of relationship etc	- Reduces redundancy - Improves data update - Improves data integrity - maintains accuracy and consistency of data - minimises update or modification errors	- Ensures identification of record - Connects records in different tables together - Improves integrity - Prevents null entries in certain fields	
8.	a)	b) ✓✓(2mks for any 2 descr.)		
(i)		Describe: - V-shape model - Agile model - Prototyping model - Iterative model		
(ii)	a) ✓✓(2mks) 1mk for each	b) ✓✓✓(3mks)	c) ✓✓✓✓(4mks)1mk for stating 1 mk for expl.	
	Guided media: physical pathway for data transmission like cables Unguided media: -Wireless transmission of data. - Non physical mode of data transmission.	Application of: -Twisted pair cable: LAN, phone line, and DSL connection etc. -Coaxial cable: contain high bandwidth video transmission eg cable TV, satellite communication components etc -Fibre optic: high speed internet, TV, and Telephone signal transmission etc	Explain the application of any 2: - Infrared - Bluetooth - Wi-fi - Microwave - Satellite.	
(iii)	a) ✓✓(2mks)	✓✓ (2 marks)		
	- Cameras to track student behaviour, record positive or negative behaviour in real time - Streamlined communication with parents to keep them inform of their children behaviour	- Learning apps for interactive exercises, quizzes, learning games - Online video tutorials and lecture. - MINESEC distant learning lessons - E-books or digital textbooks - Interactive educational platforms. - AI for self assessment		

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Duration

TASK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A	A (0, Feb)											
B			B (Feb, May)									
C			C (Feb, Jun)									
D						D (May, Aug)						
E							E (Jun, sep)					
F							F (Jun, Oct)					
G										G (Oct, Dec)		

QUESTION	ANSWER	QUESTION	ANSWER	QUESTION	ANSWER	QUESTION	ANSWER
1	A	15	B	29	B	43	C
2	D	16	B	30	A	44	A
3	B	17	D	31	C	45	C
4	A	18	A	32	A	46	C
5	C	19	D	33	B	47	A
6	A	20	B	34	D	48	A
7	C	21	C	35	D	49	A
8	B	22	D	36	B	50	D
9	C	23	D	37	B		
10	B	24	B	38	A		
11	C	25	C	39	A		
12	B	26	C	4O	D		
13	C	27	B	41	D		
14	B	28	B	42	A		