APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER INTEGRATED MCA DEGREE EXAMINATION

INMCA101—ENGLISH

MODEL QUESTION PAPER

Time : 3 Hours **Maximum. Marks : 60**

PARTA

Answer All Questions

Each question carries 3marks (8 x 3 = 24)

1. Explain the influence of mother tongue in your daily life.
2. What are the difference between listening and hearing? Explain with examples.
3. Transcribe the following words into their phonetic script
   a) Nothing b) life c) finger
4. Define syllable? What regulations should we follow while marking stress for words, with suffixes and prefixes?
5. Mark rising and falling tone for the following sentences. Explain why you chose it.
   a) *He found it on the street?*
   b) *'I never go to pubs'*
   c) *What have you done?*
6. a) What do you mean by pace of a speech?
   b) Prepare a short note on Fluency and its importance in speech.
7. a) What is a prefix?
   b) Explain word stress and sentence stress with examples.
8. Prepare a conversation for the given situation:

   Make a Dinner Reservation in Hotel Leela Palace. Make a phone call to the hotel reception and discuss the time of the dinner and number of people who will be accompanying you for the Dinner.

PART B

Answer All Questions

Each question carries 6 marks (6 x 6 = 36)

9. Explain Reading as a skill for learning English Language. Which are the different types of reading according to their purpose? Which kind of reading should we adopt to analyze a user manual?

OR

10. Why is English considered as a global language?

11. a) What is Rising Intonation? Give an example
    b) Write a note on 'Intonation in commands'.

OR

12. Construct a speech along the following lines
    a) Farewell to senior students by a junior student.
    b) Welcome speech to the invited at the collage day by you.

13. Who is a good listener?What are the advantages of good listening? What are the barriers to listening?

OR

14. a) Write a conversation between your tutor and your father discussing your progress in your study.
    b) Write a discussion with the customer care of an online shop, complaining about the poor quality of the product you got through online purchase.

15. Explain Group Discussion and its etiquettes. Prepare a list of Do's and Don'ts we have to keep in mind regarding a GD.

OR

16. Imagine that you are participating in a group Discussion on 'water pollution' in which there are four participants. Write the Discussion.

17. a)Explain Academic Listening and note taking.
    b) How can we read by locating main points and how can we make inference?

OR

18. What are the regulations we have to keep in mind while describing a person? Describe the physical features of our cricketer Sachin Tendulkar.

19. To demonstrate your attitude and behavior, apt for a professional environment, what kind of style in speaking should you adopt? Write a note on it.

OR

20. Prepare such a conversation between an employee and employer, where the employee has to ask for extension of the date of submission of the project, which he won't be able to complete on time because of some reason.

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER INTEGRATED MCA DEGREE EXAMINATION

INMCA103—MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

MODEL QUESTION PAPER

Time : 3 Hours **Maximum. Marks : 60**

PARTA

Answer All Questions

Each question carries 3marks (8 x 3 = 24)

1. Let $A = \{1, 2, 3, 4, 5\}$ and $B = \{0, 3, 6\}$. Find
   a) $A \cup B$. b) $A \cap B$.
   c) $A - B$. d) $B - A$.

2. Give an example of a relation on a set that is
   a)both symmetric and antisymmetric.
   b)neither symmetric nor antisymmetric.

3. Which of these pairs of elements are comparable in the poset $(\mathbf{Z}+, |)$?
   a) 5, 15 b) 6, 9 c) 8, 16 d) 7, 7

4. Determine whether f is a function from **Z** to **R** where $f(n) = \sqrt{n^2 + 1}$

5. State Principle of Mathematical induction?

6. Let n be a positive integer. Show that in any set of n consecutive integers there is exactly one divisible by n.

7. How many permutations of the letters *ABCDEFGH* contain the string *ABC* ?

8. How many ways are there to select five players from a 10-member tennis team to make a trip to a match at another school?

PART B

Answer All Questions

Each question carries 6 marks (6 x 6 = 36)

9. (a) Draw the Venn diagram for $A \cap (B \cup C)$ of the sets A, B, and C.

   (b) Show that $A \Delta B = (A \cup B) - (A \cap B)$ where Δ is the symmetric difference

OR

10. If $A=\{1,2,3,4\}$ $B=\{3,4,5\}$ and $C=\{3,4,6,7\}$ are sets, then prove that

$$|A \cup B \cup C| = |A| + |B| + |C| - |A \cap B| - |A \cap C| - |B \cap C| + |A \cap B \cap C|.$$

11. What are the sets in the partition of the integers arising from congruence modulo 4?

OR

12. Let m be an integer with $m>1$. Show that the relation $R = \{(a, b) \mid a \equiv b \pmod{m}\}$ is an equivalence relation on the set of integers.

13. Draw the Hasse diagramfor the poset $(\{3, 5, 9, 15, 24, 45\}, /)$.
    a) Find the maximal elements.
    b) Find the minimal elements.
    c) Is there a greatest element?
    d) Is there a least element?

OR

14. What is the covering relation of the partial ordering $\{(a, b) \mid a \text{ divides } b\}$ on $\{1, 2, 3, 4, 6, 12\}$?

15. (a) Let $f : \mathbf{Z} \to \mathbf{Z}$ be such that $f(x) = x + 1$. Is f invertible, and if it is, what is its inverse?

    (b) Let f and g be the functions from the set of integers to the set of integers defined by $f(x) = 2x + 3$ and $g(x) = 3x + 2$. What is the composition of f and g? What is the composition of g and f?

OR

16. (a) Determine whether the function $f(x) = x2$ from the set of integers to the set of integers is one-to-one
    (b) Is the function $f(x) = x + 1$ from the set of integers to the set of integers onto?

17. Use mathematical induction to show that $1 + 2 + 2^2 + \cdots + 2^n = 2^{n+1} - 1$ for all nonnegative Integers n.

OR

18. (a) How many cards must be selected from a standard deck of 52 cards to guarantee that at least three cards of the same suit are chosen?
    (b) How many must be selected to guarantee that at least three hearts are selected?

19. A group contains n men and n women. How many ways are there to arrange these people in a row if the men and women alternate?

OR

20. The English alphabet contains 21 consonants and fivevowels. How many strings of six lowercase letters of the English alphabet contain
    a) exactly one vowel?
    b) exactly two vowels?

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER INTEGRATED MCA DEGREE EXAMINATION

INMCA105—INTRODUCTION TO DIGITAL SYSTEMS AND LOGIC DESIGN

MODEL QUESTION PAPER

Time : 3 Hours **Maximum. Marks : 60**

PARTA

Answer All Questions

Each question carries 3marks (8 x 3 = 24)

1. With logic symbols and logic diagram discuss the truth table of OR gate
2. Draw the timing diagram of NAND gate
3. Discuss about the minimization of Boolean functions using theorems
4. Differentiate between latches and flip flops
5. State De Morgan's theorem
6. Explain the advantage of universal shift register
7. Discuss various types of counters
8. Discuss differences of J-K and R-S flip flops.

PART B

Answer All Questions

Each question carries 6 marks (6 x 6 = 36)

9. Explain the relevance of various number systems

OR

10. Comment on the advantages of using 1's and 2's complement addition and subtraction in computers

11. The universal gates can effectively replace the basic logic gates. Explain

OR

12. Draw the timing diagram of the Boolean equation AB'C + A'B'C

13. Minimize the given Boolean function using K-Map.

$Y=\sum M(0,2,3,6,7,8,10,11,12,15)$

OR

14. Minimize the following functions
    (1) A + A'B + AB
    (2) AB'C + A'B'C

15. With truth table and logic circuit, explain the working of edge triggered flip flop

OR

16. With truth table and logic circuit, explain the design of a full adder

17. Distinguish encoders and decoders with examples

OR

18. Distinguish between Multiplexor and De-multiplexor with examples

19. Discuss the design of parallel-in parallel-outputregisters with systematic illustration.

OR

20. Discuss the design of cascaded counter with truth table and logic circuit diagram.

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER INTEGRATED MCA DEGREE EXAMINATION

INMCA107—INTRODUCTION TO COMPUTERS AND PC HARDWARE

MODEL QUESTION PAPER

Time : 3 Hours **Maximum. Marks : 60**

PARTA

Answer All Questions

Each question carries 3marks (8 x 3 = 24)

1. Compare SATA and SCSI
2. Discuss the various analog and digital monitor display interfaces.
3. Discuss various connector interfaces of keyboards.
4. Distinguish between switches and routers.
5. Discuss how you will you identify whether it is an issue with the RAM or motherboard, when your system doesn't boot up.
6. Discuss precautions that have to be taken while installing static charge sensitive devices like Processors and RAMs.
7. Discuss different types of RAMs commercially available now.
8. Discuss how it is possible to connect an additional SSD drive to your laptop which currently has a SATA drive and a DVD drive and there are no free SATA bays free.

PART B

Answer All Questions

Each question carries 6 marks (6 x 6 = 36)

9. Distinguish between low level and high level languages. The world over, software companies are migrating their software written using assembly languages to high level languages. Justify.

OR

10. Discuss the internal Organisation of a computer and describe the essential components and alternative hardware components that are available while assembling the computer hardware.

11. Developments in technology resulted in innovative changes in printing methodology. Compare and justify.

OR

12. Discuss motherboard specifications with details about various interfaces, slots and bays that it supports.

13. Describe the internal memory Organisation of a RAM chip?

OR

14. Compare Specifications of Main Memory modules for Desktop. Also Discuss various types of RAM memory modules.

15. a) Discuss what happens when we format a drive. What is the difference between low level and high level formatting?

    b) Even when the hard disk is formatted, it is possible to retrieve data. How and why it is possible?

OR

16. Discuss the evolution of Optical storage devices. Also discuss the role of optical drives when high capacity flash drives are available currently.

17. What is a modem? What are the different types of modem?

OR

18. Explain in brief the importance of Switch and Routers in the field of networking.

19. Discuss how a hard disk can be checked for defects or bad sectors? What are the typical problems associated with RAM modules and how can they be detected and rectified?

OR

20. Discuss the sequence of steps for trouble shooting a Desktop PC which fails to boot up and where we have a blank display?

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER INTEGRATED MCA DEGREE EXAMINATION

INMCA109—FUNDAMENTALS OF ACCOUNTANCY

MODEL QUESTION PAPER

Time : 3 Hours **Maximum. Marks : 60**

PARTA

Answer All Questions

Each question carries 3marks (8 x 3 = 24)

1. What is personal account? List the classifications in personal accounts.
2. Explain journalizing process with the format.
3. Mention the important statements in final accounts.
4. Explain the need for depreciation.
5. How is provision for Bad Debts created?
6. What do you mean by current assets? Give examples.
7. Distinguish between profit and loss account and balance sheet.
8. Explain the need for Adjustments.

PART B

Answer All Questions

Each question carries 6 marks (6 x 6 = 36)

9. Explain in detail the concepts and conventions of accounting.

OR

10. Explain the forms of organization and its advantages**.**

11. Explain in detail the types of Subsidiary books.

OR

12. Prepare journal entries and cash ledger for the transactions given below.

Sep: 1st Began business by investing cash Rs.10, 000

5th Brought equipment for cash Rs.1, 200

7th Brought goods on credit, Rs.700

8th Sold goods for cash 1000

10th Paid for advertisement Rs.1, 400

25th Paid wages Rs.1, 500

28th Paid electricity charges Rs. 240.

30th Purchased office furniture. 11, 200.

13. Explain in detail the format for preparing the Trading, Profit and loss account and Balance sheet. What is the purpose for preparing such statements?

OR

14. Prepare the trading profit and loss account and balance sheet from the following trial balance.

Trial Balance

Particulars	Debit (₹)	Credit (₹)
Capital	—	4,00,000
Drawings	50,000	—
Opening Stock	75,000	—
Purchases	4,20,000	—
Sundry Creditors	—	75,000
Sundry Debtors	1,20,000	—
Sales	—	8,10,000
Discounts	16,000	18,000
Commissions	12,000	14,000
Returns	16,000	20,000
Salaries	1,20,000	—
Rent, Rates and Taxes	40,000	—
Postage, Telegrams and Telephones	25,000	—
Loan	—	3,10,000
Interest	20,000	—
Furniture	3,50,000	—
Brand Names and Designs (Patents)	60,000	—
Advertisement	1,00,000	—
Cash in Hand	1,50,000	—
Cash at Bank	63,000	—
Freight Inward	20,000	—
Duty Drawbacks (Income)	—	10,000
	16,57,000	16,57,000

Closing Stock 20000

15. On January 1st, 2008 Ram and Sons purchased machinery for Rs.100000 and spent Rs.12000 on its freight and Rs.8000 on its erection. The expected life is 10 years and it is expected that after 10 years its scrap value will be Rs 20000.Prepare machinery account and depreciation account for three years after providing depreciation on fixed installment method.

OR

16. List the various methods of depreciation. Explain in detail the straight line method and diminishing value method.

17. Write short notes on outstanding expenses, accrued income and provision for bad debts. Explain how it is treated.

OR

18. From the following Trial Balance of Mr.X, prepare the final accounts for the year ended on 31.3.2012

Debit Balance	Rs.	Credit Balance	Rs.
Land and Building	50,000	Returns	2,500
Purchases	1,10,000	Discounts	1,200
Stock	40,000	Sales	2,05,000
Returns	1,500	Capital	1,15,000
Wages	10,000	Loan	15,000
Salaries	9,000	Commission	1,500
Office Expenses	2,400	Creditors	25,000
Carriage	3,200	Bills Payable	2,350
Discounts	750		
Bad Debts	1,200		
Insurance	1,500		
Machinery	50,000		
Furniture	10,000		
Bills Receivable	20,000		
Sundry Debtors	40,000		
Cash	6,000		
Office Equipment	12,000		
	3,67,550		3,67,550

The following adjustments are to be made :

a) Closing stock Rs. 60,000
b) Outstanding wages Rs. 2,000 and Rent Rs. 3,000
c) Depreciate land and buildings at 5%, Machinery at 10%, office equipment and furniture by 10%
d) Insurance prepaid Rs. 200

19. Define common size statements. What is the significance?

OR

20. What do you mean by inter firm comparison. Explain the need for such comparison.