FYJC

COMPUTER SCIENCE

PAPER I (SOFTWARE)

SR. NO.	TOPIC
1	Number System and Binary Arithmetic • Binary Numbers • Decimal, Octal, HexaDecimal numbers • BCD • Conversion from one number system to another • ASCII code • Binary addition, subtraction by 1's complement and 2's complement • Binary multiplication and division
2	Program analysis • Analysis of program • Pseudo code • Design steps • Flow charts • Structured programming and modular programming concepts • Algorithms – searching and sorting
3	Introduction to C++ • Introduction to C++ • keyword • identifiers • data types – user defined, derived data types • constants • type compatibility • declarations of variable • operators in C++ • memory management operators • manipulators • control structures – if, switch, loops • functions in C++ • standard C++ library • references and return by reference • unformatted I/O operations

4	Visual Basic
	• introduction to VB
	• VB environment
	  - Menu bar
	  - Toolbar
	  - Properties setting
	  - Form layout
	• VB programs
	  - Variables, constants, arrays, relational operators, control flow statement, loops, nested loops, use of built in functions, event driven pogramming

5	Introduction to Networking and Internet • Networking terms and concepts • Centralised, distributed and collaborative computing • Network configuration

	• Client/ Server based networking • Peer to Peer Networking • Local Area Network(LAN) • Wide Area Network(WAN) • Networking applications – E-mail, Voice mail, FTP, WWW, E-Commerce, BBS user group

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COMPUTER SCIENCE

PAPER II (HARDWARE)

1	Study of Components and Circuits • Study of components – Resistors, Capacitors, Inductors, Transformer • Semiconductor components - Diodes, Transistors, Zener Diodes, LED • Transistor as Switch • Single stage Amplifier • Regulated Power Supply • Concept of SMPS • Logic family – TTL and CMOS, their comparative study and input parameters

2	Logic Gates and Sequential Circuits
	• Logic Gates
	  - Study of basic gates – AND, OR, NOT and their truth tables
	  - Study of NAND, NOR, XOR Gates
	  - Basic building blocks
	  - Simple combination circuits
	• Half Adder and Full Adder
	• Sequential circuits
	  - FlipFlop – SR, JK, D, Toggle
	• Registers – Shift register, counters and multiplexers, demultiplexers

3	Functional parts of PC • Study of system board/ mother board • Study of CPU properties with reference to Pentium Chips • PC memory – types of memory, conventional, extended and expanded, semiconductor memory and its types • Introduction to PC expansion Buses • Interrupts and Direct Memory Access channels • What is controller? • Video adapter, floppy disk, harddisk
4	Peripheral devices • Video – video Board Characteristics • Resolution and Color – Video monitor characteristics • Dot pitch, horizontal scan frequency • Keyboard • Mouse • Scanner • Printer • Drives – floppy disk, hard disk CD-Rom drive • Multimedia kits – sound boards • Modem