Syllabus for the System Engineer

(*Computer/Electronics Engineering***)**

S.N.	Paper	Question Format	Full Marks	Number of Questions	Exam Time
1.	**Paper I**	Aptitude Test (Objective)	20	20	20 minutes
		Core Course (Objective)	30	30	30 minutes
2.	**Paper II**	Core Course	100	10	3hrs
Total Written Exam Full Marks:			**150**		

System Engineer

(*Detail Syllabus***)**

Paper I: Objective (Core Course + Aptitude Test) Marks: 1 × 50 = 50

Unit	Area of Questions	Number Questions
1.	**Basic Concepts**	
	1.1 Electronic Devices and Circuits	1
	1.2 Digital Electronics	1
	1.3 Microprocessor and Computer Architecture	2
	1.4 Power Electronics Communication Systems	1
	1.5 Microprocessor	1
	1.6 Computer Architecture	1
	1.7 Data Structure and Algorithm	1
	1.7 Computer Graphics	1
	1.9 Operating System, DBMS, Data Communication	3
	1.10 Digital Signal Processing	1
2.	**Computer Server and System Management**	
	2.1 Computer Networks, Network Management	2
	2.2 Network Troubleshooting and Maintenance	2
	2.3 ISO-OSI, TCP/IP, Network Configuration in Server/Computer Operating System, System Troubleshooting, Server Operating System Installation	3

	2.4 Configuration and Maintenance, Firewall and System Security, Router and Router Settings, System Configuration for Different Application, DNS Setup, Proxy Server Management	3
	2.5 Web Server Management, Domain Name Server Management, SSH, SSL, Digital Certificate Installation	2
	2.6 Mail Server Management, User Management and Authentication System Management, File Server Management, Database Server Management	2
	2.7 Virtualization, VM Server and Host management, HTML, CSS, JavaScript, PHP, MySql	3
8.	TU Laws 2049, TU Teacher and Officers Service laws (2050) (Section 5, 6,9, and 10), TU Economic Management and Procurement laws (2050) (Section 12, 13 and 14)	10
9.	General ICT Knowledge and Recent Trends, Nepal Constitution (Section 2, 3,7,8,9,11,13,14,17,18 and 20)	5
10.	Meaning of voltage, current, resistance, capacitance, inductance and power, Use of volt-meter, ammeter, watt-meter, and multi-meter, Concept of conductors and insulators, working of switches, fuse, MCB, earthing, Working and installation of basic electrical household appliances and wiring	5

1 Basic Concepts

1.1 Basic Electric Circuit
1.2 Basic Electronics Circuit
1.3 Digital Logic
1.4 Programming
1.5 Microprocessor
1.6 Computer Architecture
1.7 Data Structure and Algorithm
1.8 Computer Graphics
1.9 Operating System, DBMS, Data Communication
1.10 Digital Signal Processing

2. Computer Server and System Management

2.1 Computer Networks, Network Management
2.2 Network Troubleshooting and Maintenance
2.3 ISO-OSI, TCP/IP, Network Configuration in Server/Computer Operating System, System Troubleshooting, Server Operating System Installation
2.4 Configuration and Maintenance, Firewall and System Security, Router and Router Settings, System Configuration for Different Application, DNS Setup, Proxy Server Management,
2.5 Web Server Management, Domain Name Server Management, SSH, SSL, Digital Certificate Installation,

2.6 Mail Server Management, User Management and Authentication System Management, File Server Management, Database Server Management

2.7 Virtualization, VM Server and Host management, HTML, CSS, JavaScript, PHP, MySql

Paper II: Core Course Marks: 10 × 10 = 100

Subjective Knowledge

S.N.	Area of Questions	No of Questions
1.	**Unit 1. Basic Concepts** 1.1 Basic Electric Circuit 1.2 Basic Electronics Circuit 1.3 Digital Logic 1.4 Programming 1.5 Microprocessor 1.6 Computer Architecture 1.7 Data Structure and Algorithm 1.8 Computer Graphics 1.9 Operating System, DBMS, Data Communication 1.10 Digital Signal Processing	**4 × 10** **= 40 Marks**
2.	**Unit 2 Computer Server and System Management** 2.1 Computer Networks, Network Management 2.2 Network Troubleshooting and Maintenance 2.3 ISO-OSI, TCP/IP, Network Configuration in Server/Computer Operating System, System Troubleshooting, Server Operating System Installation 2.4 Configuration and Maintenance, Firewall and System Security, Router and Router Settings, System Configuration for Different Application, DNS Setup, Proxy Server Management, 2.5 Web Server Management, Domain Name Server Management, SSH, SSL, Digital Certificate Installation, 2.6 Mail Server Management, User Management and Authentication System Management, File Server Management, Database Server Management 2.7 Virtualization, VM Server and Host management, HTML, CSS, JavaScript, PHP, MySql	**5 × 10** **= 50 Marks**
3.	TU Laws 2049, TU Teacher and Officers Service laws (2050) (Section 5,6,9, and 10), TU Economic Management and Procurement laws (2050) (Section 12, 13 and 14)	**1 × 10** **= 10 Marks**