



Conducted by Field Work Centre, Thondaimanaru
 In Collaboration with Provincial Department of Education Northern Province
 6th Term Examination - 2020
Information & Communication Technology Scheme

Part I

Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
01	2	11	2	21	5	31	3	41	5
02	5	12	2	22	3	32	3	42	4
03	2	13	3	23	4	33	2	43	4
04	2	14	4	24	3	34	3	44	2
05	4	15	5	25	2	35	4	45	4
06	3	16	5	26	3	36	1	46	1
07	4	17	4	27	3	37	3	47	1
08	2	18	1	28	5	38	3	48	1
09	2	19	5	29	2	39	2	49	2
10	3	20	3	30	4	40	3	50	3

Part II A Structured Essay

Question No.	Model Answer	Marks
1. a)i)	<ul style="list-style-type: none"> • Easy maintenance and update web pages • Style sheets guarantee consistency throughout website • Re-styling of any document, without modifying the original HTML <ul style="list-style-type: none"> • Code duplication avoided 	2marks any possible answers
1. a) ii)	A - Element Selector B – Grouping Selector C - ID Selector D – Class Selector E – Universal Selector	5 marks
1. b)	“local host” , “root” , “JVCC” , “school1” “\$ID” , “\$Name” , “\$Age”	2marks 1 mark
02. a) (i)	width of the Address bus = 16 bits maximum usable size of memory = 2^{16} bytes = 2^6 KB=64KB	2 marks
02. a) (ii)	Number of pages = $64\text{KB}/4\text{K bits} = 64 \times 8 \text{ Kbits}/4 \text{ K bits} = 128 = 2^7$ Maximum bits for use page = 7 bits Page of above address = 0100110	1 mark 1 mark 1 mark
02. b)	$45.75 = 101101.11_2 = 1.0110111 \times 2^5$ P-127=e P=5+127=137 1 10000100 011011100000000000000000	1 mark 2 marks
02. c)	$30 = 00011110_2$ -30 1's: 11100001_2 -30 2's: 11100010_2	2 marks

	$15 = 00001111_2$ $-30 + 15 : 11100001_2 + 00001111_2 = 11110001_2$ Answer 2'S = 11110001_2 Answer 1'S = 11110000_2 Answer = 00001111_2 $= -15$																																														
03. a) i)	sell and buy through internet seller is a business man buyer is a consumer / customer	3 marks																																													
03. a) (ii)	yesexplanation....	1 mark 1 mark																																													
03. b)	i. Network Layer : B ii. Physical Layer : D iii. Application Layer : F,A iv. Transport Layer : C,E	3 marks																																													
03. c)	Data link layer	2 marks																																													
04. a)	1 NF and Remove partial dependency	2 marks																																													
04. b)	LectID → LectName StuID → StuName, Major	2 marks																																													
04. c)	Student(<u>StuID</u> , StuName, Major) Lecturer (<u>LectID</u> , LectName) Student_Lecturer(<u>StuID</u> , <u>LectID</u> , Classcode)	3 marks																																													
04. d)	DOCTOR (<u>DOCID</u> , STREET , CITY) PATIENT (<u>PATID</u> , PAT_NAME) TREATS (<u>DOCID</u> , <u>PATID</u> , DATE)	3 marks																																													
Part II B Essay																																															
01. a)	<table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>Z</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>		A	B	C	Z	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	1	0	1	0	0	0	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	4 marks
	A	B	C	Z																																											
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01. b)	$A\bar{B}C + AB\bar{C} + ABC$	2 marks																																													
01. c)	$A\bar{B}C + AB\bar{C} + ABC$ $A\bar{B}C + AB(\bar{C} + C)$ $A\bar{B}C + AB$ $A(B + \bar{B}C)$ $A(B+C)$	2 marks																																													

<p>01. d)</p>		<p>2 marks</p>
<p>01. e)</p>		<p>3 marks</p>
<p>02) a)</p>	<p>Application layer Presentation layer Session layer Transport layer Network layer Data link layer Physical layer</p>	<p>3 marks</p>
<p>02. b) i)</p>	<p>256 Address</p>	<p>1 mark</p>
<p>02 b) ii)</p>	<p>First :193.230.152.0 Last: 193.230.152.255</p>	<p>2 marks</p>
<p>02. b) iii)</p>	<p>02</p>	<p>2 marks</p>

02. b)iv					5 marks any possible answers
	Department ID	Subnet Address	Subnet mask	IP Address Range	
	DS01	193.230.152.0	255.255.255.192	193.230.152.1 - 193.230.152.62	
	DS02	193.230.152.64	255.255.255.192	193.230.152.65 - 193.230.152.126	
	DS03	193.230.152.128	255.255.255.192	193.230.152.129 - 193.230.152.190	
	DS04	193.230.152.192	255.255.255.192	193.230.152.193 - 193.230.152.254	
	DS05	193.230.152.128	255.255.255.192	193.230.152.129 - 193.230.152.190	
02. c)	possible answer				2 marks
03. a)	Interpreter				1 mark
03. b)	Computer understand only machine language So, Translator convert high level language to machine language				2 marks
03. c)	<pre>def leap(year1,year2): if (year1<year2): year=year1 while year<=year2: if year % 4==0 and year % 100 !=0: print(year) elif year % 400==0: print(year) year=year+1 else: print("not a valid input Range") leap(1995,2020)</pre>				7 mark
03. d)i)	23 29				3 marks
03. d) ii)	130				2 marks
04. a)	possible answer				4 marks

<p>04. b) i)</p>	<p>Functional requirements :- Any requirements which specifies what the system should do or provide for users</p> <p>Non – Functional requirements :- Any requirement which specifies how the system performs a certain function or system works.</p>	<p>1 mark</p>
<p>04. b) ii)</p>	<p>Functional requirements: Cash withdrawals, check balance</p> <p>Non -Functional requirements: Password length more than 8 character, Maximum withdrawal amount</p>	<p>2 marks</p>
<p>04. c)</p>	<p>Unit test : To test the individual source program for errors</p> <p>Integrated test : Unit tested source codes are combined as a group and test for errors due to the integration</p> <p>Acceptance test: To test the requirements of a specifications or contract are met</p>	<p>3 marks</p>
<p>04. d)</p>	<p>Problem definition</p> <p>Feasibility study</p> <p>System analysis</p> <p>System Design</p> <p>System Development</p> <p>Testing and debugging</p> <p>Implementation</p> <p>Maintenance</p>	<p>4 marks</p>
<p>05.</p>	<pre> sequenceDiagram actor Customer participant ONLINE_CAR_RENTAL as ONLINE CAR RENTAL participant CAR_RENTAL_COMPANY as CAR RENTAL COMPANY Customer->>ONLINE_CAR_RENTAL: Login request Customer->>ONLINE_CAR_RENTAL: Authentication ONLINE_CAR_RENTAL-->>Customer: Authentication Customer->>ONLINE_CAR_RENTAL: Email for request car ONLINE_CAR_RENTAL-->>Customer: Email for request car Customer->>ONLINE_CAR_RENTAL: request car Customer->>ONLINE_CAR_RENTAL: Request for registration ONLINE_CAR_RENTAL->>CAR_RENTAL_COMPANY: New registration details ONLINE_CAR_RENTAL->>CAR_RENTAL_COMPANY: Car request ONLINE_CAR_RENTAL->>CAR_RENTAL_COMPANY: Add Customer CAR_RENTAL_COMPANY-->>Customer: car </pre>	<p>15 marks</p>

<p>06. a)</p>	<pre> erDiagram Bank --} Branch : has Branch --} Account : has Account --} Employee : has Employee --} Customer : service Customer --} Account : has Bank { string BranchNo PK } Branch { string BranchNo PK } Account { string AccountNo PK } Employee { string EmployeeNo PK } Customer { string CustomerNo PK string Address string Name } </pre>	<p>Entity 5 X 1=5 Primary key 4X1 =4 Relationship 4X1/2=2 all attributes 1</p>
<p>06. b)</p>	<p>Branch(<u>BranchNo</u>, BranchName) Employee (<u>EmployeeNo</u>, BranchNo) Customer (<u>CustomerNo</u>, address, Name) Account(<u>AccountNo</u>, AccountType,BranchNo,CustomerNo) Branch_Customer(<u>BranchNo</u>,CustomerNo) Employee Customer (<u>EmployeeNo</u> , <u>CustomerNo</u>)</p>	<p>3 marks</p>