

FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION JULY 2019

ACCOUNTANCY WITH ANALYSIS OF FINANCIAL STATEMENTS

Question Code : FY 49

Qn No.	Sub Qns	Answer key/ Value points	Score	Total												
1		c) Costly	1	1												
2		C)Number	1	1												
3		a) Decrease in cash book balance	1	1												
4		a) Trial Balance	1	1												
5		d) Reports	1	1												
6		a) Reliability	1	1												
7		Trade discount	1	1												
8		b) Forms	1	1												
9		a) expenses are greater than income	1	1												
10		Cash memo, Invoice, Sales bill, Pay-in-slip, Cheque, Salary slip, (any 4)	1/2 x4	2												
11		Cash in hand, bank balance, bills receivable, closing stock, furniture, goodwill	2	2												
12		MICR -Magnetic Ink Character Recognition VDU - Visual Display Unit	1 1	2												
13		a) Money measurement b) only those transactions and happenings in an organisation which can be expressed in terms of money are to be recorded in the book of accounts.	1 1	2												
14		Debit balance in pass book implies overdraft balance Credit balance in pass book implies deposit balance (Cash at bank)	1 1	2												
15		Amount of new bill = 25000 + 25000 X12 % X 3/12 = 25750	2	2												
16		<table border="0" style="width:100%"> <tr> <td style="width:50%">Transactions</td> <td style="width:50%">Special Journal</td> <td></td> <td></td> </tr> <tr> <td>Bought furniture for cash</td> <td>Cash Book</td> <td>1</td> <td></td> </tr> <tr> <td>Bought furniture on credit</td> <td>Journal proper Or general journal</td> <td>1</td> <td>2</td> </tr> </table>	Transactions	Special Journal			Bought furniture for cash	Cash Book	1		Bought furniture on credit	Journal proper Or general journal	1	2		
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Bought furniture on credit	Journal proper Or general journal	1	2													
17		Revenue Expenditure - rent, wages, salaries, commission etc (any 2) Capital Expenditure - Purchase of machinery, furniture , land etc (any 2)	1 1	2												
18		1. To ascertain the arithmetical accuracy of the ledger accounts. 2. To help in locating errors. 3. To help in the preparation of the financial statements.	1 1 1	3												
19		a) Yearly depreciation amount = 5400 or Total Depreciation = 54000 b) Differences between Straight line and diminishing balance methods <table border="1" style="width:100%; margin-top: 5px;"> <tr> <td style="width:33%">Basis</td> <td style="width:33%">Straight line</td> <td style="width:33%">WDV</td> </tr> </table>	Basis	Straight line	WDV	1										
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		Basis of charging depreciation	Original cost	Book Value	1		
		Annual depreciation	Fixed	Declines year after year	1	3	
		Any two differences					
20		Opening capital = 100000 Capital at the end = (50000+ 40000+30000+25000+60000) -45000 = 160000 Profit = 60000			2 1	3	
21		1) Honouring of bill 2) Retiring of bill 3) dishonour of bill			1 1 1	3	
22		Transactions	P & L account	Balance Sheet			
		Rent unpaid		Shown on the liability side	1		
		Interest on capital	Shown on the debit side		1		
		Depreciation on furniture		Deduct from furniture	1	3	
23		Operating profit = Net profit + Non-operating expenses – Non-operating incomes Net profit= 40000 Operating Profit = 40000+5000 – 1000 = 44000			1 2	3	
24		Match the following:					
		A	B				
		Owners	Return on investment		1		
		Lenders	Repaying capacity		1		
		Tax authority	True and fair disclosure of accounting information		1		
		Employees	Claim higher wages and bonus		1	4	
25	1	a)Errors of omission b) Malavika A/c Dr 10000 Sales A/c 10000			1 1		
	2	a) Errors of Principle b) Machinery A/c Dr. 4000 Wages A/c 4000			1 1	4	
26	a	Total Direct Expenses – 25000+14000 = 39000			1		
	b	Cost of goods sold – (100000+330000+39000)- 160000 = 309000			2	4	
	c	Gross profit - 419000 – 309000 = 110000			1		
27		a) This is in accordance with Principle of Conservatism or Prudence.			1		
		b) For a meaningful explanation of the above principle			3	4	

28	1	Drawings Dr 2000 Purchases A/c 2000	1	5																																																																								
	2	Machinery A/c Dr 18000 Omega Ltd A/c 18000	1																																																																									
	3	Rent A/c Dr. 4000 Bank A/c 4000	1																																																																									
	4	Bank / Cash A/c Dr 11000 Discount A/c Dr 1000 Prasad A/c 12000	2																																																																									
29	<p style="text-align: center;">Bank Reconciliation Statement</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Particulars</th> <th style="text-align: right;">Amount(+)</th> <th style="text-align: right;">Amount (-)</th> </tr> </thead> <tbody> <tr> <td>Balance as per cash book</td> <td style="text-align: right;">14000</td> <td></td> </tr> <tr> <td>Cheque issued but not presented</td> <td style="text-align: right;">3800</td> <td></td> </tr> <tr> <td>Interest credited by bank</td> <td style="text-align: right;">400</td> <td></td> </tr> <tr> <td>Cheque paid but not cleared</td> <td></td> <td style="text-align: right;">3100</td> </tr> <tr> <td>Bill dishonoured</td> <td></td> <td style="text-align: right;">2100</td> </tr> <tr> <td>Balance as per Pass Book</td> <td></td> <td style="text-align: right;">13000</td> </tr> <tr> <td></td> <td style="text-align: right;"><u>18200</u></td> <td style="text-align: right;"><u>18200</u></td> </tr> </tbody> </table>		Particulars	Amount(+)	Amount (-)	Balance as per cash book	14000		Cheque issued but not presented	3800		Interest credited by bank	400		Cheque paid but not cleared		3100	Bill dishonoured		2100	Balance as per Pass Book		13000		<u>18200</u>	<u>18200</u>	1 1 1 1 1 1	5																																																
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	Insurance 800 Less: Prepaid <u>200</u> 600 Bad debt 1000 Add: Provi <u>250</u> 1250 Depreciation on building 1800 Net Profit 3550 <u>10400</u>	Discount 500 <u>10400</u>	2	8
	Balance Sheet as on 31/12/2017		1/2 score for each correct posting	
	Liabilities Bank O/D 3000 Creditors 8000 Wages O/S capital 20000 Add: N/P <u>3550</u> 23550 Less: Drawings <u>2000</u> 21550 <u>33550</u>	Assets Debtors 6000 (-) bad debt <u>1000</u> 5000 less: provisi <u>250</u> 4750 Closing stock 8400 Prepaid insurance 200 Furniture 4000 Buildings 18000 (-) Depre: <u>1800</u> 16200 <u>33550</u>	3	
34	a) Need for special journals. b) Explain any three special journals		2 6	8

Scheme finalised by

1. ANIL KUMAR G, GGSS BP ANGADI.
2. SHAIJU A A, GHSS SOORANAD,
3. PHILIP MARY JOHN, MT HSS PATHANAMTHITTA
4. MURALIDHARAN K, GBSS NENMMARA
5. SINDHU P G , GHSS PANAMATTAM
6. THOMAS K STEPHEN, GHSS NJARAKKAL
7. RAJEEV KUMAR T K, EMS GHSS PAPPINISSERI
8. VINOD K, VIVEKODAYAM HSS TRISSUR
9. ABDUL HAKKEEM E, GHSS NEELESWARAM
10. VINOD KUMAR R, GBSS KAYAMKULAM

9446109708
 8281578632
 9446273696
 9497632428
 9497663600
 9447071661
 9446159731
 9895454551
 9495102596
 9447504102

[Handwritten signatures and initials in blue ink over the contact numbers]

1/5

FIRST YEAR IMPROVEMENT EXAMINATION JULY 2019
Subject : ACCOUNTANCY WITH CA

Code . No. FY 50

Qn No	Answer key/ Value Points	Score	Total																												
1	b. Relevance or d. Reliability	1	1																												
2	c. Current asset	1	1																												
3	a. cost concept or d. Matching concept	1	1																												
4	c. Journal Proper	1	1																												
5	a. Purchase <i>account</i>	1	1																												
6	c. Interest allowed by bank	1	1																												
7	c. Bank loan – Revenue receipt	1	1																												
8	c. Furniture	1	1																												
9	b. Creditor	1	1																												
10	Opening capital or Capital at the beginning	1	1																												
11	Any suitable one example each for revenue, Gain, Short term liability and Fixed asset	1/2 x 4	2																												
12	i. Conservatism / Prudence ii. Provision for doubtful debts , Provision for discount on debtors, Valuation of stock as cost or market price which ever is less. (Any meaning full example)	1 1	2																												
13	Gross profit Rs.2,50,000 or <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Trading account</th> </tr> <tr> <th style="width: 25%;">Particulars</th> <th style="width: 15%;">Amount</th> <th style="width: 25%;">Particulars</th> <th style="width: 35%;">Amount</th> </tr> </thead> <tbody> <tr> <td>Opening Stock</td> <td style="text-align: right;">80000</td> <td>Net Sales</td> <td style="text-align: right;">400000</td> </tr> <tr> <td>Net Purchases</td> <td style="text-align: right;">150000</td> <td>Closing Stock</td> <td style="text-align: right;">150000</td> </tr> <tr> <td>Direct Expenses</td> <td style="text-align: right;">70000</td> <td></td> <td></td> </tr> <tr> <td>Gross Profit</td> <td style="text-align: right;">250000</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: right;">550000</td> <td></td> <td style="text-align: right;">550000</td> </tr> </tbody> </table> 1/2 Score for each correct entry upto a maximum of 2 Score or Cost of goods sold Rs. 1,50,000 Gross Profit 2,50,000	Trading account				Particulars	Amount	Particulars	Amount	Opening Stock	80000	Net Sales	400000	Net Purchases	150000	Closing Stock	150000	Direct Expenses	70000			Gross Profit	250000				550000		550000	2 1 1/2 1/2	2
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14	i. Salary A/c ii. Any answer	1 1	2																												
15	Basis Statement of affairs Balance sheet Reliability It is less reliable as it is prepared from incomplete records. It is more reliable as it is prepared from double entry records. Objective To estimate the balance in capital account. To show the true financial position. Omission Omission of assets or liabilities cannot be discovered easily. Omission if any can be traced out easily from accounting records.																														
	Any meaningful two differences	1+1	2																												
16	i. Ready to use – used for small organisation, Eg. Medical Store, grocery Shop, etc	1																													

17	<p>ii. Customised is used for medium and large scale eg. Shopping mall, Departmental Store, etc Any other meaningful two examples</p>	1	2																																																																											
18	<p>Assets = Capital + Liabilities 1)Rs.30000 2)Rs.60000 3)Rs.25000</p>	1 1 1	3																																																																											
19	<p style="text-align: center;">Sales Day Book</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Date</th> <th style="width: 40%;">Particulars</th> <th style="width: 10%;">Invoice Noi.</th> <th style="width: 10%;">L/F</th> <th style="width: 30%;">Amlount</th> </tr> </thead> <tbody> <tr> <td></td> <td>Krishna Stores: 40 T Shirts @Rs.500</td> <td></td> <td></td> <td style="text-align: right;">20000</td> </tr> <tr> <td>2018 Jan 1</td> <td>25 Jeans @ Rs.750</td> <td style="text-align: center;">401</td> <td></td> <td style="text-align: right;">18750</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">38750</td> </tr> <tr> <td></td> <td>Less 10% Discount</td> <td></td> <td></td> <td style="text-align: right;">3875</td> </tr> <tr> <td></td> <td>Dhanya Tex: 20 Churidhar @Rs.400</td> <td></td> <td></td> <td style="text-align: right;">8000</td> </tr> <tr> <td>Jan 8</td> <td>50 Kurtha@ Rs.300</td> <td style="text-align: center;">403</td> <td></td> <td style="text-align: right;">15000</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">23000</td> </tr> <tr> <td></td> <td>Less 5% Discount</td> <td></td> <td></td> <td style="text-align: right;">1150</td> </tr> <tr> <td></td> <td>Salu Textile Mart : 75 Sarees @Rs.700</td> <td></td> <td></td> <td style="text-align: right;">52500</td> </tr> <tr> <td>Jan 20</td> <td>30 Pardha@ Rs.900</td> <td></td> <td></td> <td style="text-align: right;">27000</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">79500</td> </tr> <tr> <td></td> <td>Less 8% Discount</td> <td style="text-align: center;">404</td> <td></td> <td style="text-align: right;">6360</td> </tr> <tr> <td></td> <td>Total</td> <td></td> <td></td> <td style="text-align: right;">73140</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">129865</td> </tr> </tbody> </table>	Date	Particulars	Invoice Noi.	L/F	Amlount		Krishna Stores: 40 T Shirts @Rs.500			20000	2018 Jan 1	25 Jeans @ Rs.750	401		18750					38750		Less 10% Discount			3875		Dhanya Tex: 20 Churidhar @Rs.400			8000	Jan 8	50 Kurtha@ Rs.300	403		15000					23000		Less 5% Discount			1150		Salu Textile Mart : 75 Sarees @Rs.700			52500	Jan 20	30 Pardha@ Rs.900			27000					79500		Less 8% Discount	404		6360		Total			73140					129865	1 1 1 1 1 1 1 1 1	3
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20	<p>High Speed, Accuracy, Reliability, Storage, Versatility, Time liners , etc (Any three answer or any three differences)</p>	1+1+1	3																																																																											
21	<p>Procedure for creating table in LibreOffice Base Open LibreOffice Base -> create Table Any meaningful Answer</p> <p>i) Insurance A/c Dr 2000 To Bank 2000</p> <p>ii) Charity A/c Dr 2500 To Purchase 2500</p> <p>iii) Cash A/c Dr 1500 To Bank 1500</p> <p>iv) Nirmal A/c Dr 6000 To Return Outwards 6000 (Purchase Return)</p> <p>(Any three correct entry give full score)</p>	1 1 1 1 1	4																																																																											
22																																																																														

22

Bank Reconciliation Statement

Balance as per Cash Book		80000	
Add			
Cheque issued but not presented		15000	
		95000	
Less			
Cheque deposited but not collected	10000		
Bank Charges	500	10500	
Balance as per Pass Book		84500	

1

1

1

1

4

23

Machinery A/c

Year	Particulars	Amount	Year	Particulars	Amount
2015			2016	By Depreciation	46000
April 1	To Cash	230000	March 31	By Balance cld	184000
		230000			230000
2016				By Depreciation	38300
April 1	To Balance B/d	184000	2017	(36800 + 1500)	
2017	To Cash	30000	March 31	By Balance cld	175700
Jan 1					
		214000			214000
2017			2018	By Depreciation	35140
April 1	To Balance B/d	175700	March 31	By Balance cld	140560
		175700			175700

2

1

1

Or

Machinery A/c

Year	Particulars	Amount	Year	Particulars	Amount
2015			2016	By Depreciation	46000
April 1	To Cash	230000	March 31	By Balance cld	184000
		230000			230000
2016				By Depreciation	47500
April 1	To Balance B/d	184000	2017	46000 + 1500)	
2017	To Cash	30000	March 31	Balance cld	166500
Jan 1					
		214000			214000
2017			2018	By Depreciation	52000
April 1	To Balance B/d	166500	March 31	By Balance cld	114500
		166500			166500

2

1

1

4

24

Petty cash book balance Rs. 1130/-
(1/2 Score for each item)

1/2 x 10

5

25

i) Salary A/c Dr 8000
 To Suresh 8000

1

ii) Suspense A/c Dr 5000
 To Purchase 5000

1

or

Purchase account credited with Rs.5,000/-

iii) Sojan A/c Dr 10000
 To Purchase 5000
 To Sales 5000

1

iv) Cash A/c Dr 9000
 To Shalini 9000

1

v) Repairs A/c Dr 4000
 To Machinery 4000

1

5

4/5

26

- i) Sreejith A/c
- ii) Bills Receivable
- iii) Discount A/c
 To Bills Receivable
- iv) Bank A/c

1
1
1+1
1

5

27

Trading and Profit & Loss Account

Particulars	Amount	Particulars	Amount
Opening Stock	9000	Sales	72000
Purchases	35000	Less: Returns	2000
Less: Returns	1500	Closing stock	12000
Carriage	500		
Wages	5000		
Gross Profit	34000		
	82000		82000
Rent	2000	Gross Profit	34000
Less: Prepaid	300	1700 Commission	800
Commission Paid		200 Interest	700
Discount	500		
Printing	300		
Salary	2300		
Add: Outstanding	1000		
Bad Debts	1000		
Add: Provision	1000		
Depreciation on machinery	3000		
Depreciation on furniture	500		
Net Profit	24000		
	35500		35500

3
1/2 Score each

1/2 score Each
Max 3 Score

Balance Sheet

Liabilities	Amount	Assets	Amount
Capital	80000	Buildings	17000
Add: Net Profit	24000	Machinery	30000
	104000	Less: Depreciation	3000
Less: Drawings	2000	Furniture	10000
Creditors	15000	Less: Depreciation	500
Loan	10000	Debtors	20000
Bills Payable	13000	Less: Provision	1000
Outstanding Salary	1000	Bills Receivables	15000
		Closing stock	12000
		Bank	12700
		Cash	28500
		Prepaid Rent	300
	141000		141000

1/2 Score each
Max 2 Score

8

28

Yes :
Cash book is both Journal and Ledger

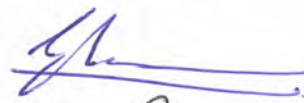
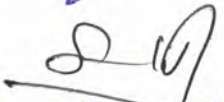



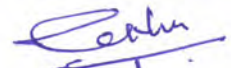



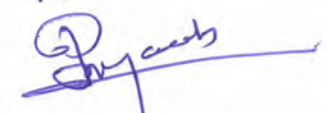






1
1

8

Double Column Cash Book								
Date	Particulars	L/F	Cash	Bank	Date	L/F	Cash	Bank
01/08/18	Balance b/d		60000	40000	05/08/18		15000	
02/08/18	Mohan		30000		06/08/18			2000
08/08/18	Cash	C		25000	08/08/18	C	25000	
10/08/18	Sales		40000		15/08/18			8000
31/08/18	Interest			500	30/08/18			250
					31/08/18		90000	55250
			130000	65500			130000	65500

12 x 1/2
Score = 6

8

1. GLADISON. L 9446108575 
2. SANTOSH JACOB (08222) 9495342285 
3. RADHAKRISHNAN TP 9447491637 
4. Sreenalkan. O. 9447923766 
5. Mini. P John 9495107177 
6. Chandralekha. P.P 9747409420 
7. Shanmukan. K 9387206466 
8. Munkaprasad. V.V. 9447361785 
9. Jisu Thomas kurian 9446445640 
10. Yacob T.M. 9447913163 
4. Jan Hunter P 9846328614 
12. Nassar P Nilommen
Babu V S Valaramur 9995337482 
13. Devadas chethiyar. R 9496547691
GHS Vechochira Colony, Pathanamthitta 
14. Pauljo George (7051) 9447606774 
15. Biju Mathew 9447444135 
16. P. Sivadasan HSS1 9496206762 

FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION JULY 2019

SUBJECT: MATHEMATICS (COMMERCE)

CODE. NO: FY 51

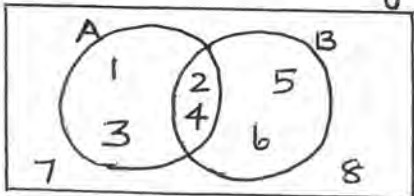
Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1.	a) $A = \{1, 2\}$ $B = \{2, 3, 4\}$ b) $B - A = \{3, 4\}$		1 1 1	3
2	a) $R = \{(1, 5), (2, 4), (3, 3), (4, 2), (5, 1)\}$ <u>Remark</u> : For each correct ordered pair give $\frac{1}{2}$ score b) Domain = $\{1, 2, 3, 4, 5\}$		2 1	3
3	a) (ii) $1 + 2i$ b) $r = \sqrt{2}, \theta = \frac{\pi}{4}$ <u>Remark</u> : $r(\cos\theta + i\sin\theta)$ give 1 score		1 1+1	3
4	a) (ii) 60 b) $\frac{9! - 8!}{8! \cdot 9!} = \frac{x}{10!}$ $x = 80$ <u>Remark</u> : concept of factorial give 1 score		1 1 1	3
5	a) $a + 10d = 53$ $a + 15d = 78$ $d = 5, a = 3$ <u>Remark</u> $a_n = a + (n-1)d$ give 1 score b) $a_{27} = a + 26d = 133$		$\frac{1}{2}$ $\frac{1}{2}$ 1 $\frac{1}{2} + \frac{1}{2}$	3
6.	a) Slope = 3 <u>Remark</u> $m = \frac{y_2 - y_1}{x_2 - x_1}$ give $\frac{1}{2}$ score b) $m = \frac{k-2}{2-1}$ or $\frac{k+4}{2+1}$ $k-2 = 3, k = 5$ <u>Remark</u> : Concept of slopes give 1 score. Alternate correct method give full score.		1 1 1	3

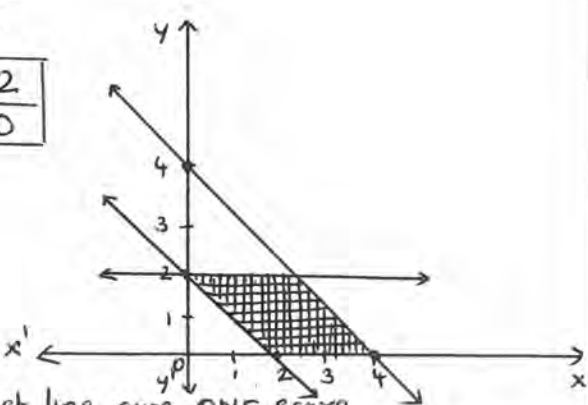
(2/8)

Qn No	Sub Qns	Answer Key/Value Points	Score	Total												
7	a)	$E = \{HT, TH, HH\}$ Remark for writing sample space give $\frac{1}{2}$ score	1													
	b)	$P(A' \cap B') = 1 - P(A \cup B)$ $= 1 - (P(A) + P(B))$ $= 1 - 0.65 = 0.35$ Remark: $P(A \cap B) = 0$ give $\frac{1}{2}$ score $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ give $\frac{1}{2}$ score	$\frac{1}{2}$ $\frac{1}{2}$ 1	3												
8	a)	<table border="1" style="display: inline-table;"><tr><td>x</td><td>-3</td><td>-1</td><td>0</td><td>2</td><td>3</td></tr><tr><td>y</td><td>5</td><td>3</td><td>2</td><td>4</td><td>5</td></tr></table> Remark: for each correct entry give $\frac{1}{2}$ each	x	-3	-1	0	2	3	y	5	3	2	4	5	2	
x	-3	-1	0	2	3											
y	5	3	2	4	5											
	b)	 Remark Graph of $ x $ give 1 score	2	4												
9	a)	LHS of $P(1) = (1 + \frac{1}{1}) = 2$ RHS of $P(1) = (1 + 1) = 2$ LHS = RHS	$\frac{1}{2}$ $\frac{1}{2}$													
	b)	$P(1)$ is true, Assume that $P(k)$ is true $P(k) = (1 + \frac{1}{1})(1 + \frac{1}{2})(1 + \frac{1}{3}) \dots (1 + \frac{1}{k}) = k+1$ We will show that $P(k+1)$ is true $P(k+1) = (1 + \frac{1}{1})(1 + \frac{1}{2})(1 + \frac{1}{3}) \dots (1 + \frac{1}{k+1}) = k+2$ LHS = $(1 + \frac{1}{1})(1 + \frac{1}{2})(1 + \frac{1}{3}) \dots (1 + \frac{1}{k})(1 + \frac{1}{k+1})$ $= (k+1)(1 + \frac{1}{k+1})$ $= k+2$ $P(k+1)$ is true	1 1 $\frac{1}{2}$ $\frac{1}{2}$	4												
10	a)	(iii) $-i$	1													

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
	b)	$\sqrt{3+4i} = x+iy$ $3+4i = x^2-y^2+i 2xy$ $x^2-y^2 = 3 \text{ --- ①}$ $2xy = 4 \text{ --- ②}$ $(x^2+y^2)^2 = (x^2-y^2)^2 + (2xy)^2$ $= 9+16$ $x^2+y^2 = 5 \text{ --- ③}$ $x^2-y^2 = 3 \text{ --- ①}$ <hr style="width: 20%; margin-left: 0;"/> $2x^2 = 8$ $x = \pm 2, \quad y = \pm 1$ <p>Roots are $2+i$ and $-2-i$</p> <p>Remark: For alternate method give full score</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$	3+1
11	a	$(x^2 + \frac{3}{x})^4 = {}^4C_0 (x^2)^4 (\frac{3}{x})^0 + {}^4C_1 (x^2)^3 (\frac{3}{x})^1 + {}^4C_2 (x^2)^2 (\frac{3}{x})^2 +$ ${}^4C_3 (x^2)^1 (\frac{3}{x})^3 + {}^4C_4 (x^2)^0 (\frac{3}{x})^4$ $= x^8 + 12x^5 + 54x^2 + \frac{108}{x} + \frac{81}{x^4}$ <p>Remark: Expansion of $(a+b)^n$ give 1 score</p>	2 1	4
	b.	$T_{r+1} = {}^n C_r a^{n-r} b^r$ $= {}^4 C_2 3^2$ $= 54$ <p>Remark: Expansion of $(x - \frac{3}{x})^4$ give $\frac{1}{2}$ score</p>	$\frac{1}{2}$ $\frac{1}{2}$	
12	a	(ii) 2	1	4
	b	<p>Terms are $\frac{a}{r}, a, ar$</p> $a^3 = 8 \Rightarrow a = 2$ $\frac{2}{r} + 2 + 2r = \frac{21}{2}$ $4r^2 - 17r + 4 = 0$ $r = \frac{17 \pm \sqrt{289 - 64}}{8} = \frac{17 \pm 15}{8}$ $= 4 \text{ or } \frac{1}{4}$ <p>G.P. = $\frac{1}{2}, 2, 8$ or $8, 2, \frac{1}{2}$</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	

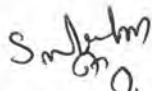



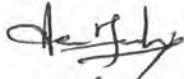

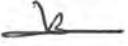

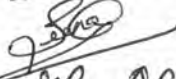


Qn No	Sub Qns	Answer Key/Value Points	Score	Total
13	a.	Slope = -1 Remark $m = -\frac{a}{b}$ give $\frac{1}{2}$ Score	1	
	b.	Slope of perpendicular line = 1 Equation of perpendicular line: $y-1 = 1(x-5)$ Remark $x-y = 4$ Concept of slopes of perpendicular lines give $\frac{1}{2}$ Score $y-y_1 = m(x-x_1)$ give $\frac{1}{2}$ Score	$\frac{1}{2}$ $\frac{1}{2}$	
	c.	Solving $x+y = 2$ $x-y = 4$ <hr/> $x = 3, y = -1, (x, y) = (3, -1)$	1 1	4
14	a.	$a^2 = 25, b^2 = 9$ $c^2 = 16, c = \pm 4$ foci = $(0, \pm 4)$ Remark: $c = \sqrt{a^2 - b^2}$ give $\frac{1}{2}$ Score foci = $(0, \pm c)$ give $\frac{1}{2}$ Score	1 $\frac{1}{2}$ $\frac{1}{2}$	
	b.	radius = $\sqrt{(x_2-x_1)^2 + (y_2-y_1)^2}$ $= \sqrt{3^2 + 4^2} = 5$ Equation of a circle: $(x-h)^2 + (y-k)^2 = r^2$ $(x-3)^2 + (y-0)^2 = 5^2$ $x^2 + y^2 - 6x - 16 = 0$	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	4
15	a.	(ii) z-axis	1	
	b.	$d = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2 + (z_2-z_1)^2}$ Each sides = $\sqrt{18} = 3\sqrt{2}$ Perimeter = $9\sqrt{2}$ Remark: Distance formula give $\frac{1}{2}$ Score	1+1+1	4
16	a.	(i) 4	1	
	b.	$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$	1	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
		$= \lim_{h \rightarrow 0} \frac{(x+h)^2 - x^2}{h}$ $= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h}$ $= \lim_{h \rightarrow 0} (2x + h)$ $= 2x$ <p>Remark: for direct answer give 1 score</p>	<p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p>	4
17	<p>a. 'If I will come then it is not raining'</p> <p>b. Assume that $\sqrt{6}$ is not irrational</p>	<p>$\Rightarrow \sqrt{6} = \frac{a}{b}$ where a and b are integers with no common factors other than 1</p> <p>Squaring, $b = \frac{a^2}{6}$</p> <p>$\Rightarrow a^2 = 6b^2$</p> <p>$\Rightarrow 6$ divides a</p> <p>$a = 6c \Rightarrow (6c)^2 = 6b^2$</p> <p style="margin-left: 40px;">$b^2 = 6c^2$</p> <p>$\Rightarrow 6$ divides b</p> <p>$\Rightarrow 6$ divides both a and b, which is a contradiction to our assumption</p> <p>$\Rightarrow \sqrt{6}$ is an irrational number</p>	<p style="text-align: center;">1</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p> <p style="text-align: center;">1/2</p>	4
18	<p>a</p> <p>b</p>	 <p>$A = \{1, 2, 3, 4\}$</p> <p>$B = \{2, 4, 5, 6\}$</p> <p>Remark For two correct elements give 1 score each in A and B</p>	2 1 1	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total												
	c	$(A \cup B) - (A \cap B) = \{1, 2, 3, 4, 5, 6\} - \{2, 4\}$ $= \{1, 3, 5, 6\}$ <p>Remark: For any A and B, Correct $(A \cup B) - (A \cap B)$ give full score</p>	<p>1</p> <p>1</p>	6												
19	a.	(i) $\frac{\pi}{8}$	1													
	b.	$\sin 75^\circ = \sin (45 + 30)$ $= \sin x \cos y + \cos x \sin y$ $= \sin 45 \cos 30 + \cos 45 \sin 30$ $= \frac{\sqrt{3}}{2\sqrt{2}} + \frac{1}{2\sqrt{2}}$ $= \frac{\sqrt{3} + 1}{2\sqrt{2}}$	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>													
	c.	$\text{LHS} = \frac{\cos 5x + \cos 3x}{\sin 5x - \sin 3x}$ $= \frac{2 \cos 4x \cos x}{2 \cos 4x \sin x}$ $= \cot x$ <p>Remark formula for $\cos x + \cos y$ and $\sin x - \sin y$ give $\frac{1}{2}$ each</p>	<p>2</p> <p>1</p>	6												
20.	a.	$9(x-2) \leq 25(2-x)$ $9x - 18 \leq 50 - 25x$ $9x + 25x \leq 50 + 18$ $34x \leq 68$ $x \leq 2$	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p>													
	b.	<table border="1" style="display: inline-table; margin-right: 20px;"> <tr><td>x</td><td>0</td><td>4</td></tr> <tr><td>y</td><td>4</td><td>0</td></tr> </table> <table border="1" style="display: inline-table;"> <tr><td>x</td><td>0</td><td>2</td></tr> <tr><td>y</td><td>2</td><td>0</td></tr> </table> 	x	0	4	y	4	0	x	0	2	y	2	0	<p>1</p>	3
x	0	4														
y	4	0														
x	0	2														
y	2	0														
		<p>Remark: For each correct line give ONE score For Drawing x, y axis give $\frac{1}{2}$ score,</p>		6												

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score																																			
21	a.	Total number of arrangements = $8!$ $= 40320$ UEIO can be arranged in to $4!$ ways UEIO QSTN can be arranged in $5!$ ways $\text{Total} = 4! \times 5!$ ways $= 2880$	1 $\frac{1}{2}$ $\frac{1}{2}$ 1.																																				
	b.	(i) For attempting give ONE score (ii) Number of chords = $21C_2$ $= 210$	1 2	6																																			
22		<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th>Class</th> <th>x_i</th> <th>f_i</th> <th>$x_i f_i$</th> <th>$x_i^2 f_i$</th> </tr> </thead> <tbody> <tr> <td>0-10</td> <td>5</td> <td>5</td> <td>25</td> <td>125</td> </tr> <tr> <td>10-20</td> <td>15</td> <td>10</td> <td>150</td> <td>2250</td> </tr> <tr> <td>20-30</td> <td>25</td> <td>20</td> <td>500</td> <td>12500</td> </tr> <tr> <td>30-40</td> <td>35</td> <td>5</td> <td>175</td> <td>6125</td> </tr> <tr> <td>40-50</td> <td>45</td> <td>10</td> <td>450</td> <td>20250</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">50</td> <td style="text-align: center;">1300</td> <td style="text-align: center;">41250</td> </tr> </tbody> </table> a. Mean = $\frac{1300}{50} = 26$ b. SD = $\sqrt{\frac{41250}{50} - (26)^2} = \sqrt{825 - 676}$ $= \sqrt{149} = 12.21$ c. CV = $\frac{\sigma}{\bar{x}} \times 100$ $= \frac{12.21}{26} \times 100$ $= 46.9$	Class	x_i	f_i	$x_i f_i$	$x_i^2 f_i$	0-10	5	5	25	125	10-20	15	10	150	2250	20-30	25	20	500	12500	30-40	35	5	175	6125	40-50	45	10	450	20250			50	1300	41250	2 2 1 $\frac{1}{2}$ $\frac{1}{2}$	6
Class	x_i	f_i	$x_i f_i$	$x_i^2 f_i$																																			
0-10	5	5	25	125																																			
10-20	15	10	150	2250																																			
20-30	25	20	500	12500																																			
30-40	35	5	175	6125																																			
40-50	45	10	450	20250																																			
		50	1300	41250																																			
		Remark: For correct table entries give 2 score Formula for mean and standard deviation give 1 score each																																					


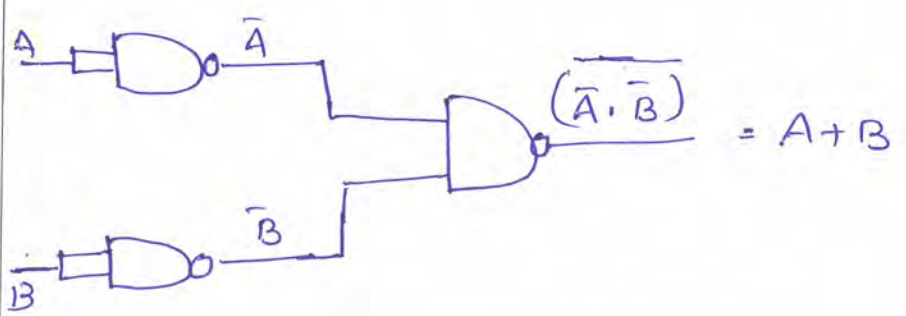
Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score																																																						
23		<table border="1"> <thead> <tr> <th>Class</th> <th>f_i</th> <th>Cf</th> <th>x_i</th> <th>$x_i - 45$</th> <th>$f_i x_i - 45$</th> </tr> </thead> <tbody> <tr> <td>10-20</td> <td>4</td> <td>4</td> <td>15</td> <td>30</td> <td>120</td> </tr> <tr> <td>20-30</td> <td>6</td> <td>10</td> <td>25</td> <td>20</td> <td>120</td> </tr> <tr> <td>30-40</td> <td>10</td> <td>20</td> <td>35</td> <td>10</td> <td>100</td> </tr> <tr> <td>40-50</td> <td>20</td> <td>40</td> <td>45</td> <td>0</td> <td>0</td> </tr> <tr> <td>50-60</td> <td>10</td> <td>50</td> <td>55</td> <td>10</td> <td>100</td> </tr> <tr> <td>60-70</td> <td>6</td> <td>56</td> <td>65</td> <td>20</td> <td>120</td> </tr> <tr> <td>70-80</td> <td>4</td> <td>60</td> <td>75</td> <td>30</td> <td>120</td> </tr> <tr> <td></td> <td>60</td> <td></td> <td></td> <td></td> <td>680</td> </tr> </tbody> </table> <p>a. $N = 60, \frac{N}{2} = 30$ $M = L + \left(\frac{\frac{N}{2} - C}{f} \right) h$ $= 40 + \left(\frac{30 - 20}{20} \right) 10$ $= 45$</p> <p>b. $M.D(\text{Median}) = \frac{\sum f_i x_i - M }{N}$ $= \frac{680}{60}$ $= 11.33$</p>	Class	f_i	Cf	x_i	$ x_i - 45 $	$f_i x_i - 45 $	10-20	4	4	15	30	120	20-30	6	10	25	20	120	30-40	10	20	35	10	100	40-50	20	40	45	0	0	50-60	10	50	55	10	100	60-70	6	56	65	20	120	70-80	4	60	75	30	120		60				680	2 1 1 1 1	6
Class	f_i	Cf	x_i	$ x_i - 45 $	$f_i x_i - 45 $																																																					
10-20	4	4	15	30	120																																																					
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	60				680																																																					
24	a(i)	$S = \{(1,2) (1,3) (1,4) (2,2) (2,3) (2,4) (3,2) (3,3) (3,4)\}$ (ii) $A = \{(1,4) (2,3) (3,2)\}$ $P(A) = \frac{3}{9} = \frac{1}{3}$ <u>Remark</u> : Concept of probability give 1 score	1 1 1																																																							
	b.	$P(A) = \frac{63}{100} \quad P(B) = \frac{62}{100} \quad P(A \cap B) = \frac{45}{100}$ (i) $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ $= \frac{80}{100}$ (ii) $P(A' \cap B') = 1 - P(A \cup B)$ $= \frac{20}{100}$	1 1 $\frac{1}{2}$ $\frac{1}{2}$	6																																																						

1. Subhash. K.K 9496418185 
2. RESMI .K 9447841535 
3. J-Johnvicli 9446171748 
4. Asha. e.N. 9495966094 
5. GASMIN MARTIN 9447343716 
6. Mini.O 9946646681 
7. GIRISA DEVI.K 9497853974 
8. Rekha.M.R 9946457036 
9. PRASEENA.C.K 9526898641. 
10. Mini Abraham 6238436116 
11. Ragesh.C 9744655467. 

FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION JULY 2019

SUBJECT: COMPUTER SCIENCE AND INFORMATION TECHNOLOGY




CODE. NO: FY 52

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
		<u>PART A</u>		
1		Debugging	1	1
2		• CPP	1	1
3		Spot(c)	1	1
4		Optical fibre	1	1
5		Google.	1	1
		<u>PART B</u>		
6		<u>I</u> - vacuum tube, <u>II</u> - Transistor <u>III</u> - IC, <u>IV</u> - microprocessor / VLSI	4x1/2	2
7	(a)	BMP, GIF, PNG, JPG, JPEG, TIFF Any two image format	2x1/2	2
	(b)	$(\bar{A} \cdot 1) + (A + 0)$	1	
8		<u>AND</u>  	1 1	2

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
9		Green design, Green Manufacturing, Green use, Green disposal (Any 2 approach with explanation)	2x1	2
10		Symbols - 1 score logic - 1 score	1 } 1 }	2
11		Source code Object code	1 } 1 }	2
12		Unary operator - ++, -- Binary operator - *, /	1 } 1 }	2
13		double, float, int, char	4x1/2	2
14		Switch (a) { Case 0 : cout << "zero"; break; Case 1 : cout << "one"; break; Case 2 : cout << "Two"; break; default : cout << "Invalid Number" ; }	2	2

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
15		Any two valid points from each	4x1/2	2
16		Any two valid points from each	4x1/2	2
17	a	void large (int, int);	1	2
	b.	float average (int, int);	1	
18		Formal argument - Variable used in function definition.	1	2
		Actual argument - Variable used in function call.	1	
19		<u>PART C</u>		
	(a)	$(158)_{10} = (10011110)_2$	1	3
	(b)	$(1A2)_{16} = (418)_{10}$	1	
	(c)	$(1200)_{10} = (2260)_8$	1	
20	(a)	IPR - Current Instruction		
	(b)	Program Counter - Address of next instruction		
	(c)	USB - port.		
	(d)	OMR - Entrance Examination	6x1/2	3
	(e)	MICR - Bank Industry		
	(f)	Barcode reader - Product code.		

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
21		Any 3 valid points from each	6x1/2	3
22	a	Definition	1	3
	b	Definition	1	
	c	Definition	1	
23		Break Continue	1/2 } 1/2 }	3
24		Header file looping statement logic	1 } 1 } 1 }	3
25		local variable - scope and visibility global variable - scope and visibility	1/2 } 1/2 }	3
26	(a)	Protocol - HTTPS Domain name - kerala.gov.in File name - index.html	1/2 } 1/2 } 1/2 }	3
	b	1) Wide Area Network	1/2 }	
		2) Unshield Twisted Pair 3) Transmission Control Protocol/ Internet Protocol.	1/2 } 1/2 }	
27	a	User name @ domain name	1 }	3
	b	any 4 advantages	2 }	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
		<u>PART D</u>		
28		Theorems Truth table	2 } 2 }	4
29	(a)	Explanation Syntax Example	1 } 1 } 1 } 3	4
	(b)	void	1	
30		Header file Array declaration looping statement logic	1 } 1 } 1 }	4
31	a	Any 4 valid points	2 }	4
	b	Any 4 valid points	2 }	
32		SMS, MMS, GPS, Smart card. Explain any two	2x2	4
	1.	SREEKATHA. S. 		
	2.	John. C.L.  9446705240		
	3.	Jyothi. E 		

FIRST YEAR HIGHER SECONDARY IMPROVEMENT EXAMINATION JULY 2019

SUBJECT: ELECTRONIC SYSTEMS

CODE. NO: FY 53

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1		Transistor, Diode ($\frac{1}{2}$ mark each)	1	1
2		1.1 eV	1	1
3		Voltage divider biasing circuit	1	1
4		$A + \bar{A} = 1$.	1	1
5		Modulation	1	1
6		Statement of KVL.	2	2
7		Circuit diagram of halfwave rectifier Explanation / Output waveform	1 1	2
8		Structure of depletion type MOSFET	2	2
9		Circuit diagram Explanation / Input output waveforms	1 1	2
10		Any two needs	2	2
11		Any two applications	2	2
12		reason	2	2
13		$\frac{N_2}{N_1} = \frac{I_1}{I_2}$ $I_2 = 2 \text{ mA}$	1 1	2
14		$V_{\text{rms}} = \frac{V_m}{\sqrt{2}}$ — $\frac{1}{2}$ Or $V_{\text{rms}} = 3.53 \text{ V}$, $V_{\text{pp}} = 10 \text{ V}$ $f = 100 \text{ Hz}$	1 1 1	3

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
15		Circuit diagram Working	1½ 1½	3
16		Definition of valence band, conduction band and forbidden energy gap or Energy band diagrams - (2)	1x3	3
17		Three comparisons or Figure showing operating point and conduction angle - (2)	3	3
18		Need for modulation - 3 needs.	3	3
19		Explanation of intrinsic and extrinsic semiconductors with necessary structural diagrams.	4	4
20		Circuit diagram Explanation with input-output waveforms.	2 2	4
21	(a)	Short-note on photodiode	1	4
	(b)	Symbol - 1 Structure - 1	2	
	(c)	one application	1	
22	(a)	Symbol and truth table	2	4
	(b)	NAND and NOR + Reason	1 1	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
23		Block diagram of CRO	4	4
24	(a)	Any two specifications	1	5
	(b)	$C = \frac{\epsilon A}{d}$ or three factors.	3	
	(c)	Symbol of variable capacitor	1	
25	(a)	CE amplifier	1	5
	(b)	Output characteristics	2½	
		Marking of different regions of operations	1½	
26	(a)	Forward characteristics of a PN junction diode	2	5
	(b)	Any three differences	3	
27	(a)	Difference between Half adder and full adder	1	5
	(b)	Circuit diagram of full adder	2	
		Truth table	2	

Maya. M
Lr in Electronics
THSS, Muttada

N-2811

9495976455

Ambili. K
Lr in Electronics
MTSS Kaloor

Ambili. K

Smitha. L. K
Foreman Electronics
THSS Vazhakkad

Smitha. L. K

EST-I (old scheme)

Imp-19

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total
1.		Very high	1	1
2.		a) Ohm's law	2	2
		b) $R = 6k\Omega$ $I = 1mA$	1 1	2
3.		V-I characteristics	1x2	2
4.		Symbols	1x3	3
5.		Volume control - Potentiometer	1	2
		Tuning Tuning - Gang capacitor	1	
6.		2.7k $\Omega \pm 10\%$ - Red, violet, Red, silver	1	3
		10M $\Omega \pm 5\%$ Brown, violet black, violet, gold	1	
		820 $\Omega \pm 20\%$ Grey, Red, Brown	1	
7.		a) - 1 MF	1	2
		b) - 4 mH	1	
8.		a) Explanation	3	3
		b) Zener diode	1	1
9.		a) Characteristics	2	4
		Explanation	2	
10.		b) gm	1	1
11.		Diagram	2	2
		a) Circuit	2	3
		b) Definition	1	

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total
12		a) Circuit diagrams Explanation	2 2	4
		b) 7912	1	1
13		a) Explanation	2	
		b) any one component	1	3
14		a) RC coupled amplifier	4	
		b) 10	1	5
15		a) Definition (OR)	1 x 3	3
		b) $\alpha = \frac{\beta}{1+\beta} = 0.99$	1	
		$\gamma = 1 + \beta = 101$	1	2
16		Comparison - any 3	1 x 3	3
17		Circuit diagram (OR)	(OR) 3	3
18		a) Block diagrams Explanation	2 2	4
		b) parallel	1	1
19		Any three specifications	1 x 3	3
20		a) Block diagrams of FM radio Receiver	3	3
		b) Need for modulation (any two points)	1 x 2	2
			60	

HSE I Computer Information Technology (Old Scheme)
(Scoring indicators)

Imp-19

Qn no	Value points	Split score	Total score
1	ASCII – full form and hex codes Or UNICODE any valid character code	2	2
2	a) 11001000(2) = C8 (16) b) 10011010 (2) = 9A(16)	2	2
3	a) AND , symbol b) AND followed by NOT	2 2	4
OR 4	Truth table proof	2+2	4
5	Value retains even after power is turned off Example ROM memories	2 1	3
6	b) SRAM	1	1
7	Fetch, decode, execute steps explanation	2	2
8	impact, quality, speed etc	3	3
9	barcode reader, OCR, OMT etc any one with explanation	2	2
10	b. Charles Babbage	1	1
11	manage resources like memory, process, file i/o etc	3	3
12	Explanation of multiuser and multitasking	1 ½ 1 ½	3
13	modem, internet connection, NIC etc	3	3
14	Locality,connectivity, etc(any two differences)	2	2
15	any 3 valid points in Educational field	3	3
16	Symbols(2) logic(1)	3	3
17	<pre>#include<iostream.h> void main() { int x=50,y=20; float a=x+x/y; cout<<a; }</pre>	2	2
18	Keywords-int, for, switch Identifiers- square,count,case l	½ ½	1
19	Relational-<,<=,>,>=,==,!= Logical- &&, ,!	6X ½	3
OR 20	?:, syntax; example	2+1	3
21	b. void	1	1

1/2

22	a) Fibonacci logic(3) syntax (1)	4	4
OR23	Sum of digits logic (3) syntax(1)	4	4
24	Syntax of switch(2) worling(2)	4	4
25	Largest and smallest program	2	2
26	Structure variable (1) member operator(1)	1+1	2
27	Fact() function (2) main program (2)	2+2	4