

Core Paper – 1 : Semester - I

CC-1 Computer Fundamentals

BLOCK-I

Unit-1-Introduction: History and classification of computers, Hardware. Software limitations of computers

Unit=1

Unit-2-Human Computer Interface: Types of software, Types of Operating system, features of operating systems, comparison of operating systems

Unit-3 : Use of Computers in Education and Research: e-learning and e-class room. e-Library, Data Analysis, Google Scholar, Domain specific packages such as SPSS, R tool

BLOCK-II

Unit-4- Input Devices, Output Devices, Display Technologies - CRT, Plasma Panel, LCD, LED, HD LED, Ultra HD LED, Smart TVs, Curve TVs

Unit-5 - Memory: Primary memory and technologies, secondary memory and technologies, auxiliary memory, cache memory

Unit-6- Inside Computer: Form factors of cabinets, SMPS, Motherboard, Ports and interfaces, expansion slots, ribbon cables, memory chips, processors, Third party devices, Block diagram of a computer

BLOCK-III

Unit-7–Central Processing Unit: C.P.U and its components, functions of CPU., CPU registers, types and technologies of system bus, memory unit and its functions

Unit-8: Number Systems-Logic gates, Binary, Octal, Hexa Decimal conversions

UNIT-9 : Binary Arithmetic, 1's Complement arithmetic, 2's Complement Arithmetic

BLOCK-IV

Unit-10- Overview and classification of computer viruses and worms, hacking, overview of malware and spyware, fire walls, examples and comparison of anti-virus software

Unit-11 - Windows: Desktop and its properties, This PC, properties of Folders and Files, searching files and applications, setting region, date and time, connectivity settings, Network settings

Unit-12 - Overview of Emerging Technologies: overview of wireless technologies, Data Mining and Big Data Analysis, cloud computing, mobile computing, IoT, and Embedded Systems, Cryptocurrency

Practical :

The practical assignment must include connecting parts of a computer and assembling it to an extent, media formatting and installation of some software.

Practical exercises based on Open Office tools using document preparation and spreadsheet handling packages.

Text Editor

1. Prepare a **grocery list** having four columns (Serial number, The name of the product, quantity and price) for the month of April, 06.
 - Font specifications for Title (Grocery List): 14-point Arial font in bold and italics.
 - The headings of the columns should be in 12-point and bold.
 - The rest of the document should be in 10-point Times New Roman.
 - Leave a gap of 12-points after the title.
2. Create a telephone directory.
 - The heading should be 16-point Arial Font in bold
 - The rest of the document should use 10-point font size

- Other headings should use 10-point Courier New Font.
 - The footer should show the page number as well as the date last updated.
3. Design a **time-table form** for your college.
- The first line should mention the name of the college in 16-point Arial Font and should be bold.
 - The second line should give the course name/teacher's name and the department in 14-point Arial.
 - Leave a gap of 12-points.
 - The rest of the document should use 10-point Times New Roman font.
 - The footer should contain your specifications as the designer and date of creation.
4. BPB Publications plans to release a new book designed as per your syllabus. Design the **first page of the book** as per the given specifications.
- The title of the book should appear in bold using 20-point Arial font.
 - The name of the author and his qualifications should be in the center of the page in 16-point Arial font.
 - At the bottom of the document should be the name of the publisher and address in 16-point Times New Roman.
 - The details of the offices of the publisher (only location) should appear in the footer.
5. Create the following one page documents.
- Compose a note inviting friends to a get-together at your house, Including a list of things to bring with them.
 - Design a certificate in landscape orientation with a border around the document.
 - Design a Garage Sale sign.
 - Make a sign outlining your rules for your bedroom at home, using a numbered list.
6. Create the following documents:
- (a) A newsletter with a headline and 2 columns in portrait orientation, including at least one image surrounded by text.
 - (b) Use a newsletter format to promote upcoming projects or events in your classroom or college.
7. Convert following text to a table, using comma as delimiter
Type the following as shown (do not bold).

Color, Style, Item
 Blue, A980, Van
 Red, X023, Car
 Green, YL724, Truck
 Name, Age, Sex
 Bob, 23, M
 Linda, 46, F
 Tom, 29, M

8. Enter the following data into a table given on the next page.

Salesperson	Dolls	Trucks	Puzzles
Kennedy, Sally	1327	1423	1193
White, Pete	1421	3863	2934
Pillar, James	5214	3247	5467
York, George	2190	1278	1928
Banks, Jennifer	1201	2528	1203
Atwater, Kelly	4098	3079	2067

Add a column Region (values: S, N, N,S,S,S) between the Salesperson and Dolls columns to the given table Sort your table data by Region and within Region by Salesperson in ascending order:

In this exercise, you will add a new row to your table, place the word "Total" at the bottom of the Salesperson column, and sum the Dolls, Trucks, and Puzzles columns.

9. Wrapping of text around the image.

10. Create your resume by incorporating most of the options learned till now.

11. Write a letter to all your class mates listing the exam time table of I Year using mail merge

12. Following features of complete menu option must be covered
FILE, EDIT, VIEW, INSERT, FORMAT, TOOLS, WINDOW

1. Enter the Following data in Excel Sheet

REGIONAL SALES PROJECTION

State	Qtr1	Qtr2	Qtr3	QTR4	Qtr Total	Rate Amount
Delhi	2020	2400	2100	3000		15
Punjab	1100	1300	1500	1400		20
U.P.	3000	3200	2600	2800		17
Harayana	1800	2000	2200	2700		15

TOTAL,AVERAGE

- a. Apply Formatting as follow:
 - Title in **TIMES NEW ROMAN** Font Size – 14
 - Remaining text - **ARIAL**, Font Size -10
 - State names and Qtr. Heading **Bold**, *Italic* with Gray Fill Color.
 - Numbers in two decimal places.
 - Qtr. Heading in center **Alignment**.
 - Apply **Border** to whole data.
 - b. Calculate State and Qtr. Total
 - c. Calculate Average for each quarter
 - d. Calculate Amount = Rate * Total.
2. Given the following worksheet

	A	B	C	D
1	Roll No.	Name	Marks	Grade
2	1001	Sachin	99	
3	1002	Sehwag	65	
4	1003	Rahul	41	
5	1004	Sourav	89	
6	1005	HarBhajan	56	

Calculate the grade of these students on the basis of following guidelines:

If Marks	Then Grade
>= 80	A+
>= 60 < 80	A
>= 50 < 60	B
< 50	F

3. Given the following worksheet

	A	B	C	D	E	F	G	
1	Salesman	Sales in (Rs.)						
2	No.	Qtr1	Qtr2	Qtr3	Qtr4	Total	Commission	
3	S001	5000	8500	12000	9000			
4	S002	7000	4000	7500	11000			
5	S003	4000	9000	6500	8200			

6	S004	5500	6900	4500	10500
7	S005	7400	8500	9200	8300
8	S006	5300	7600	9800	6100

- i. Calculate the commission earned by the salesmen on the basis of following Candidates:

If Total Sales	Commission
< 20000	0% of sales
> 20000 and < 25000	4% of sales
> 25000 and < 30000	5.5% of sales
> 30000 and < 35000	8% of sales
>= 35000	11% of sales

The total sales is sum of sales of all the four quarters.

1. A company XYZ Ltd. pays a monthly salary to its employees which consists of basic salary, allowances & deductions. The details of allowances and deductions are as follows:

- HRA Dependent on Basic
- 30% of Basic if Basic \leq 1000
- 25% of Basic if Basic > 1000 & Basic \leq 3000
- 20% of Basic if Basic > 3000
- DA Fixed for all employees, 30% of Basic
- Conveyance Allowance Rs. 50/- if Basic is \leq 1000 Rs.
- 75/- if Basic > 1000 & Basic \leq 2000
- Rs. 100 if Basic > 2000
- Entertainment Allowance NIL if Basic is \leq 1000
- Rs. 100/- if Basic > 1000

Deductions

- Provident Fund 6% of Basic
- Group Insurance Premium Rs. 40/- if Basic is \leq 1500
- Rs. 60/- if Basic > 1500 & Basic \leq 3000
- Rs. 80/- if Basic > 3000

Calculate the following:

Gross Salary = Basic + HRA + DA + Conveyance + Entertainment

Total deduction = Provident Fund + Group Insurance Premium

Net Salary = Gross Salary – Total Deduction

6. Create Payment Table for a fixed Principal amount, variable rate of interests and time in the format below:

No. of Instalments	5%	6%	7%	8%	9%
3	XX	XX	XX	XX	XX
4	XX	XX	XX	XX	XX
5	XX	XX	XX	XX	XX

6. Use an array formula to calculate Simple Interest for given principal amounts given the rate of Interest and time

Rate of Interest	8%
Time	5 Years
Principal	Simple Interest
1000	?
18000	?
5200	?

7. The following table gives year wise sale figure of five salesmen in Rs.

Salesman	2000	2001	2002	2003
S1	10000	12000	20000	50000
S2	15000	18000	50000	60000
S3	20000	22000	70000	70000
S4	30000	30000	100000	80000
S5	40000	45000	125000	90000

- (a) Calculate total sale year wise.
- (b) Calculate the net sale made by each salesman
- (c) Calculate the maximum sale made by the salesman
- (d) Calculate the commission for each salesman under the condition.
 - (i) If total sales >4,00,000 give 5% commission on total sale made by the salesman.
 - (ii) Otherwise give 2% commission.
- (e) Draw a bar graph representing the sale made by each salesman.
- (f) Draw a pie graph representing the sale made by salesman in 2000.

8. Enter the following data in Excel Sheet

TOTAL REVENUE EARNED FOR SAM’S BOOKSTALL

Publisher name	1997	1998	1999	2000	total
A	Rs. 1,000.00	Rs. 1100.00	Rs. 1,300.00	Rs. 800.00	
B	Rs. 1,500.00	Rs. 700.00	Rs. 1,000.00	Rs. 2,000.00	

C	Rs.	700.00	Rs.	900.00	Rs.	1,500.00	Rs.	600.00
D	Rs.	1,200.00	Rs.	500.00	Rs.	200.00	Rs.	1,100.00
E	Rs	800.00	Rs.	1,000.00	Rs.	3,000.00	Rs.	560.00

- Compute the total revenue earned.
- Plot the line chart to compare the revenue of all publisher for 4 years.
- Chart Title should be 'Total Revenue of sam's Bookstall (1997-2000)'
- Give appropriate categories and value axis title.

9. Generate 25 random numbers between 0 & 100 and find their sum, average and count. How many no. are in range 50-60

Prepare cumulative attendance of all subjects of all the UG I Years up to March 2019

Marks in home examination).

- Identify primary and foreign keys. Create the tables and insert at least 5 records in each table.
- Design a query that will return the records (from the second table) along with the name of student from the first table, related to students who have more than 75% attendance and more than 60% marks in paper 2.
- List all students who live in "Delhi" and have marks greater than 60 in paper 1.
- Find the total attendance and total marks obtained by each student.
- List the name of student who has got the highest marks in paper 2.

3) Create the following tables and answer the queries given below:

**Customer (CustID, email, Name, Phone, ReferrerID) Bicycle
(BicycleID, DatePurchased, Color, CustID, ModelNo)
BicycleModel (ModelNo, Manufacturer, Style)**

Service (StartDate, BicycleID, EndDate)

- Identify primary and foreign keys. Create the tables and insert at least 5 records in each table.
- List all the customers who have the bicycles manufactured by manufacturer "Honda".
- List the bicycles purchased by the customers who have been referred by customer "C1".
- List the manufacturer of red colored bicycles.
- List the models of the bicycles given for service.

4) Create the following tables, enter at least 5 records in each table and answer the queries given below.

EMPLOYEE (Person_Name, Street, City) WORKS (Person_Name, Company_Name, Salary) COMPANY (Company_Name, City)

MANAGES (Person_Name, Manager_Name)

- a) Identify primary and foreign keys.
 - b) Alter table employee, add a column "email" of type varchar(20).
 - c) Find the name of all managers who work for both Samba Bank and NCB Bank.
 - d) Find the names, street address and cities of residence and salary of all employees who work for "Samba Bank" and earn more than \$10,000.
 - e) Find the names of all employees who live in the same city as the company for which they work.
 - f) Find the highest salary, lowest salary and average salary paid by each company.
 - g) Find the sum of salary and number of employees in each company.
 - h) Find the name of the company that pays highest salary.
- 5) Create the following tables, enter at least 5 records in each table and answer the queries given below.

Suppliers (SNo, Sname, Status, SCity)

Parts (PNo, Pname, Colour, Weight, City)

Project (JNo, Jname, Jcity)

Shipment (Sno, Pno, Jno, Qunatity)

- a) Identify primary and foreign keys.
 - b) Get supplier numbers for suppliers in Paris with status>20.
 - c) Get suppliers details for suppliers who supply part P2. Display the supplier list in increasing order of supplier numbers.
 - d) Get suppliers names for suppliers who do not supply part P2.
- 6.) For the above table write the sql code for the following queries
- e) For each shipment get full shipment details, including total shipment weights.
 - f) Get all the shipments where the quantity is in the range 300 to 750 inclusive.
 - g) Get part nos. for parts that either weigh more than 16 pounds or are supplied by suppliers S2, or both.
 - h) Get the names of cities that store more than five red parts.

7). For the above table write the sql code for the following queries

- i) Get full details of parts supplied by a supplier in Delhi.
- j) Get part numbers for part supplied by a supplier in Allahabad to a project in Chennai.
- k) Get the total number of project supplied by a supplier (say, S1).
- l) Get the total quantity of a part (say, P1) supplied by a supplier (say, S1).

8.) Write sqlquerie to demonstrate joins

9). Write query to demonstrate sql triggers

10) Write a query to demonstrate sql forms

11) Write a query to demonstrate sql reports