



कार्यालय प्राचार्य, शासकीय महाविद्यालय, लवन 493 526

जिला - बलौदा बाजार-भाटापारा (छत्तीसगढ़)

Phone: 9425506780, E Mail : lawncollege\_2009@rediffmail.com

www.govtcollegelawan.in College Code - 1209

लवन, दिनांक 13/10/2021

// सूचना //

समस्त छात्र छात्राओं को सूचित किया जाता है कि महाविद्यालय में **Value Added Courses** प्रारंभ किये जा रहे हैं।

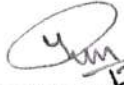
विवरण-

S.NO.	COURSE NAME	COURSE FEES (INR)
1	Mushroom Cultivation	450/-
2	Aquaculture Practices	400/-
3	Basic Computer Knowledge	350/-
4	Vermiculture Technology	450/-
5	Public Health and Hygiene	350/-
6	Horticulture & Gardening Techniques	400/-

सभी कोर्स की न्यूनतम अवधि 30 घंटे होगी।

कोर्स में प्रवेश के इच्छुक छात्र छात्राएँ 22 अक्टूबर 2021 तक संलग्न प्रपत्र में आवेदन कर पंजीयन कर सकते हैं। एक विद्यार्थी एक से अधिक पाठ्यक्रम में प्रवेशित हो सकता है किन्तु प्रत्येक पाठ्यक्रम के लिये पृथक आवेदन करना होगा।

शासकीय महाविद्यालय लवन के छात्र छात्राओं के साथ ही अन्य महाविद्यालयों के छात्र छात्राएँ भी उपरोक्त मूल्यवर्धन पाठ्यक्रमों में अपनी संस्था के प्राचार्य से अनुमति लेकर प्रवेश प्राप्त कर सकते हैं।

  
13.10.2021  
(वाय.आर.महिलाने)  
**VC PRINCIPAL**  
**GOVT.COLLEGE, LAWAN**  
Distt. Baloda Bazar-Bhatapara (C.G.)

# GOVERNMENT COLLEGE LAWAN

## SYLLABUS (VAC)

### BASIC COMPUTER KNOWLEDGE (70 MARKS)

#### 1. Introduction to Computers

Computer System Characteristics and Capabilities: Computer Hardware and Software, Computer Generations:

#### 2. Computer Organization

Introduction to Input Devices : Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, MICR, Voice Input Devices, Pointing Devices – Mouse, Light Pen. Storage Devices :Storage Fundamentals – Bits, Bytes, Primary Storage –RAM, ROM, Secondary Storage – Floppy Disks, Hard Disks, Optical Disks, CD/DVD. Computer Output: Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters. Computer output, Softcopy Output Devices.

#### 3. Operating System And Different types of Operating Systems-

General Features of Windows, macOS, and other prominent open source operating systems.

#### 4. Internet

History of Internet, Basic applications of Internet, e- banking, online form submission, cloud storage, DigiLocker, National Academic Depository, INFLIBNET-NLIST, Internet of Things.

#### 5. MS- OFFICE

General applications of MS Word, MS PowerPoint, MS Excel and Paint.

#### 6. APPLIED ONLINE TOOLS

QR code generation, Google forms, Google Classroom, Online quizzes, Income tax calculation, Template creation.

#### 7. Cyber Security

General aspects of cyber safety, cyberbullying, phishing, social media ethics and data safety, e-commerce safety.

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**Practical Work- (30 MARKS)**

1. Creation of Document in MS Word.
2. Creation of animated PowerPoint presentation.
3. Creation of Spreadsheet in MS Excel with applications of calculation, chart, sorting and filter.
4. Application of Google Drive in saving documents.
5. DigiLocker and other academic instruments.
6. Google form creation



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**GOVERNMENT COLLEGE LAWAN  
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**SYLLABUS  
VALUE ADDED COURSE – MUSHROOM CULTIVATION  
COURSE CODE- CCMUC101**

**COURSE DURATION – 30 Hrs**

**LEARNING COMPETENCY-** After successful completion of this course the students will develop mushroom cultivation skills.

**THEORY**

UNIT 1: Introduction history. Nutritional and medicinal value of edible mushroom; poisonous mushrooms. Types of edible mushroom available in India.

UNIT 2: Cultivation technology: infrastructure: substrates (locally available) polythene bag. Vessels inoculation hook, inoculation loop, low cost stove, sieves, culture rack, mushroom unit (thatched house) water sprayer, tray, small polythene bag. Pure culture: medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation – paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation – low cost technology, composting technology in mushroom production.

UNIT 3: Storage and nutrition: short – term storage (Refrigeration – upto 24 hours) long term storage (canning, pickles, papads), drying, storage in salt solutions. Nutrition – proteins-amino acids, mineral element –carbohydrates, crude fibre content – vitamins.


UNIT 4: Food preparation: types of foods prepared from mushroom. Research centers – national level and regional level. Cost benefit ratio – Marketing in and abroad, export value.

**PRACTICAL WORK**

- Selection and processing of straw for bed preparation
- Preparation of beds for cultivation of various mushrooms and its maintenance
- Growing and identification of viable spawn
- Post harvesting care and processing
- Visit to Mushroom farms.

  
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# Aquaculture

## About the course

This course will give the students an understanding of the principles of aquaculture, including production systems, water quality, nutrition, spawning, larval culture and culture methodologies with special reference to fish, and prawn. The course will include an opportunity to conduct hands-on activities related to culture and husbandry of animals.

Marking Scheme-

Theory = 75 marks, Practical Work = 25 Marks

## Learning outcomes

After completing this course the learners will be able to

- understand the aquaculture systems
- Understand conditioning factors and how they can be manipulated
- Describe water depuration mechanisms
- Understand the environmental impacts of aquaculture

### Unit I : Freshwater aquaculture systems

Aquaculture concept, Culture systems: Freshwater prawn culture. Composite fish culture: Definition and various patterns. Mixed fish farming in India. Techniques of composite culture.

### Unit II: Preparation and management of fish culture ponds

Nursery ponds. Predatory and Weed fishes and their control. Fish toxicants. Fertilization.

Aquatic insects and their control. Fish food organisms and their production. Supplementary feeding. Transport of fish seed and Brood fish. Causes of mortality in transport. Packaging and Use of chemicals in live fish transport. Anaesthetic drugs, Antiseptics and Antibiotics.

### Unit III: Fish pathology

Parasitic infections. Fungus infections. Protozoan diseases. Bacterial diseases; Worm diseases. Non parasitic diseases. Rearing ponds, Stocking ponds. Fish breeding: Natural and artificial.


Harvesting: Fishing techniques, preservation & processing of fish.

### Unit IV: Technologies in Fisheries development

Fertilization & feeds. Recirculation technology, Geographic Information System (GIS) technology, passive Acoustics in fisheries, Use of Information Communication Technology (ICT) in fishes.

### Unit V: Applied Fisheries

Production and marketing aspects of fishes, Aquarium keeping, Common Ornamental Fishes.

  
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### Practical Work-

1. Identification of indigenous fish species of Chhattisgarh.
2. Bund preparation for fish rearing.
3. Fish food preparation.
4. Ideal Aquarium keeping practices.
5. Ideal Fish nursery model.

  
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**GOVERNMENT COLLEGE LAWAN  
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**SYLLABUS  
VALUE ADDED COURSE – VERMICULTURE TECHNOLOGY  
COURSE CODE- CCVCT104**

**COURSE DURATION – 40 Hrs**

**LEARNING COMPETENCY-** After successful completion of this course the students will learn scientific approach of vermiculture and they will be able to produce good quality of Vermicompost.

Detailed Syllabus:

Practical	Theory
Collection of wastes & their segregation & processing	Knowledge of General Safety, health and hygiene Concept of Vermitechnology. What & Why. Definition and justification- Vermitechnology, vermicomposting and rearing.
Bed preparation for Anaerobic & Aerobic composting	
Carefully mixing of beds	Importance of Vermicompost in Agri-horticultural practices.
Bed preparation for Vermicomposting.	Vermicomposting for Organic Farming - an Eco-Friendly Approach
Four chambered tank/pit system, etc.	
Earthworm collection & application on beds	Vermicomposting for Rural Development
Inspection of beds & watering	Waste materials: Classification, disposal techniques & their impact on environment
Vermicompost collection, Earthworms separation, Air drying of vermicompost, sowing & storing	
	Earthworms: Type, identification & usefulness
	Anaerobic (Pit) & Aerobic (Heap) composting techniques & their comparison
	Vermiculturing: Techniques & importance
	Vermicomposting techniques, standard composition of vermicompost
Vermi wash collection & processing	Vermi-wash production techniques, standard composition of vermish
Repetition of Techniques for confidence building	Economics on Vermiculture and Vermicomposting
Visit to Vermicomposting Farm	Problems & prospects of Vermicomposting in India

  
12.10.2021  
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12.10.2021  
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## Public Health and Hygiene

### About the course

The course designed for public health and hygiene at graduation level will give understanding for health hygiene, dietary issues, diseases related to malnutrition, communicable and non-communicable diseases.

### Marks Scheme

THEORY =75 MARKS, PRACTICAL WORK & PROJECT = 15 + 10 MARKS

### Learning outcomes

After successfully completing the course, the students will be able to

- Identify current national and global public health problems.
- Aware about the issues of food safety, water safety, vaccination, exercise and obesity, exposure to toxins.
- frame a public health plan during any epidemic or spread of infectious disease etc.
- Analyze case studies of infant mortality and obesity.
- Assess the health inequalities with regard to gender, race, ethnicity, income etc.


Students may make an oral presentation and compare the health care system of India with a country having advanced one.

### Unit-I: Maintenance of personal hygiene

Introduction to public health and hygiene- determinants and factors. Pollution and health hazards; water and air borne diseases. Radiation hazards: Mobile Cell tower and electronic gadgets (recommended levels, effects and precaution). Role of health education in environment improvement and prevention of diseases. Personal hygiene, oral hygiene and Menstrual Hygiene.

### Unit-II: Nutrient deficiency diseases

Classification of food into micro and macro nutrients. Balanced diet, dietary plan for an infant, normal adult, pregnant woman and old person. Importance of dietary fibres. Significance of breast feeding. Malnutrition anomalies – Anaemia (Iron and B12 deficiency), Kwashiorkar, Marasmus, Rickets, Goiter (cause, symptoms, precaution and cure). Substitution of diet with required nutrients to prevent malnutrition disorders.

  
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### **Unit-III: Communicable and contagious diseases**

Infectious agents responsible for diseases in humans. Communicable viral diseases- measles, chicken pox, poliomyelitis, swine flu, dengue, chikungunya, rabies, leprosy and hepatitis.

Communicable bacterial diseases- tuberculosis, typhoid, cholera, tetanus, plague, whooping cough, diphtheria, leprosy. sexually transmitted diseases- AIDS, syphilis and gonorrhoea. Health education and preventive measures for communicable diseases.

### **Unit-IV: Non-communicable diseases and cure**

Genetic disorders, Non-communicable diseases such as hypertension, stroke, coronary heart disease, myocardial infarction.

Diabetes- types and their effect on human health. Gastrointestinal disorders- acidity, peptic ulcer, constipation. Obesity (Definition and consequences). Mental illness (depression and anxiety). Oral and lung cancer and their preventive measures.

### **Unit –V Public Health Management**

Vaccination, Institutional deliveries, Public Health Management during Epidemics and Pandemics, First Aid and Emergency care.

#### **Practical Work:**

1. Sanitizer and disinfectant preparation in lab.
2. First Aid measures.
3. Body Mass Index determination by Quetelet's Index.
4. Estimation of Blood Sugar and Blood Pressure.
5. Estimation of haemoglobin in blood.

  
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**GOVERNMENT COLLEGE LAWAN**

**SYLLABUS**

**HORTICULTURE & GARDENING TECHNIQUES (VAC) (70 MARKS)**

**Unit 1: Fundamentals of Horticulture:** Scope and importance, classification of horticultural crops, nursery techniques and their management, soil and climate. Production and practices for fruit, vegetable and floriculture crops. Principles objectives, water management– irrigation methods, weed management.

**Unit 2: Seed:** Structure and types - Seed dormancy; causes and methods of breaking dormancy - Seed storage: Seed banks, factors affecting seed viability, genetic erosion - Seed production technology - seed testing and certification.

**Unit 3:Vegetative propagation:** air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants - green house - mist chamber, shed root, shade house and glass house.

**Unit 4: Sowing/raising of seeds and seedlings** - Transplanting of seedlings - Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes, and carrots - Storage and marketing procedures.

**Unit 5: Plants as Medicine:** Plants used in various systems of medicine – Ayurvedic, Homoeopathic and Allopathic systems. Viral, Bacterial and fungal disease of important crop plants, symptoms, appraisal disease forecasting and several methods of control.



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**Practical Work- (30 MARKS)**

1. Preparation of herbarium category wise herbs, shrubs and tree plants.
2. Preparation of layout for green house.
3. Perform the technique of vegetative propagation for ornamental plants.
4. Survey, collection and identification of plants of medicinal uses.
5. Nursery preparation.
6. Weed identification.
7. Pest and disease identification.



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संगणक विज्ञान एवं अभियांत्रिकी विभाग  
भारतीय प्रौद्योगिकी संस्थान मुंबई  
पवई, मुंबई-400 076, भारत

Department of  
**Computer Science and Engineering**  
Indian Institute of Technology Bombay  
Powai, Mumbai-400 076, India



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Date: 17/08/2021

To  
The Principal,  
Government College Lawan

### NEFT Payment for Bulk Registration

With reference to your email dated 16/08/2021, we thank you for showing interest in our IITBombayX - Lakshya courses and gladly welcome all the students.

We request your institute to kindly arrange to transfer the course fees of Rs. **13010/-** (Rupees Thirteen Thousand and Ten Only) by NEFT at the earliest and share the soft copy of the same with us. We will enrol your students in the respective courses once payment is received.

**PAN number of IIT Bombay is AAAT11446A.**

**The bank details for NEFT are as follows:**

**Beneficiary Name:** Registrar, Indian Institute of Technology, Bombay

**Banker:** State Bank of India, Adishankarachary Marg, Powai, Mumbai - 400076, India

**A/c No:** 10725729173

**NEFT/RTGS/IFSC:** SBIN0001109

The course fee is inclusive of 18% GST. Please note that the course fee once paid will not be refunded.

**We will need the following information from your Institute:**

1. Institute name
2. Address with pin code
3. Email address
4. Is Institute GST registered (Y/N)
5. GSTN number if the Institute is GSTN registered
6. PAN number
7. TAN number
8. Contact number

For any payment related queries, please send an email to [dbpaccounts@cse.iitb.ac.in](mailto:dbpaccounts@cse.iitb.ac.in).

(Digital Signature)  
Prof. Bhaskaran Raman  
Principal Investigator, Project ESOS

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भारतीय प्रौद्योगिकी संस्थान मुंबई  
पवई, मुंबई-400 076, भारत

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Email : office@cse.iitb.ac.in  
Website : www.cse.iitb.ac.in



**Details of the course opted by your institute:**

Sr.No (A)	Course Name (B)	No. of students (C)	Discounted course fees (D)	Total Amount (E) (CxD=E)
1	Workplace communication	2	400	Rs. 800/-
2	Soft Skills	12	400	Rs. 4800/-
3	English for Written communication	1	400	Rs. 400/-
4	English for Oral communication	10	400	Rs. 4000/-
5	LaTeX	3	400	Rs. 1200/-
6	Introduction to Finance and Accounting	1	400	Rs. 400/-
7	Thermodynamics	NA	590	NA
8	Signals and Systems, Part 1	NA	470	NA
9	Signals and Systems, Part 2	NA	470	NA
10	Programming Basics (Instr pace)	2	470	Rs. 940/-
11	Object-Oriented Programming (Instr pace)	NA	470	NA
12	Basic Programming using Python	NA	470	NA
13	Foundation of Data Structures	1	470	Rs. 470/-
14	Algorithms	NA	470	NA
15	Implementation of Data Structures	NA	470	NA
16	Shell Programming	NA	470	NA
	<b>TOTAL</b>	59		<b>Rs. 13010/-</b>

  
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छत्तीसगढ़ शासन

उच्च शिक्षा विभाग

:: मंत्रालय ::

महानदी भवन, नवा रायपुर अटल नगर, जिला-रायपुर

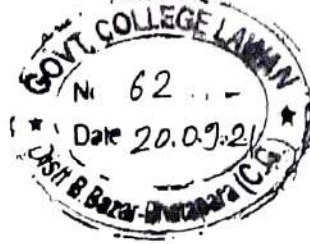
email : higher-education@cg.gov.in

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क्रमांक एफ 3-96/2021/38-1  
पति

नवा रायपुर अटल नगर, दिनांक 20/09/2021

आयुक्त,  
उच्च शिक्षा संचालनालय,  
इंद्रावती भवन,  
नवा रायपुर, अटल नगर  
रायपुर (छ.ग.)



03 SEP 2021

विषय :- प्रदेश के शासकीय महाविद्यालयों में सत्र 2021-22 से स्ववित्तीय योजना अंतर्गत स्नातक/स्नातकोत्तर स्तर पर नवीन विषय/ पाठ्यक्रम/संकाय प्रारंभ करने हेतु स्वीकृति प्रदान करने बाबत।

राज्य शासन, एतद् द्वारा, राज्य में संचालित शासकीय महाविद्यालयों में सत्र 2020-21 से स्ववित्तीय योजना अंतर्गत स्नातक/स्नातकोत्तर स्तर पर नवीन विषय/ पाठ्यक्रम/संकाय प्रारंभ करने हेतु निम्नानुसार स्वीकृति प्रदान की जाती है :-

क्र.	महाविद्यालय का नाम	स्ववित्तीय योजना अंतर्गत प्रस्तावित नवीन विषय/संकाय	वांछित सीट संख्या
1	शास. बिलासा कन्या स्नातकोत्तर महा. बिलासपुर	M.Lib. & I. Sc. (1 year)	50
		Onco-nutrition (1 Year)	50
		B.Sc. Bio-technology (3Year)	100
		B.Sc. Micro Biology (3Year)	100
2	शास. कमला देवी पी.जी. कन्या महाविद्यालय राजनांदगांव	P.G. Diploma in Yoga Education & Philosophy	25
3	शास. नेमीचंद जैन महाविद्यालय दल्लीराजहरा जिला बालोद	पीजीडीसीए	40
		डीसीए	40
4	शास. इंजी. विश्वेश्वरैया पी.जी. महा. कोरबा	एम.ए. इतिहास	30
		बी.पी.एड.	50
5	शास.टी.सी.एल महाविद्यालय जाजगीर	एम.ए. संस्कृत	35
		एम.ए. मनोविज्ञान	35
		एम.ए. गृहविज्ञान	35
		बी.ए. भूगोल	60
		Bachelor of Social Work (BSW)	50
		एम.एससी. (कम्प्यूटर साइंस)	30
		Diploma in Business Management	30
6	शास. काव्योपाध्याय हीरालाल महा. अभनपुर	P.G. Diploma in Yoga Education & Philosophy	30
		पी.सी.ए	40
		एम.कॉम.	20
7	शास. पं. श्यामाचरण शुक्ल महा. धरसीवा रायपुर	एम.एससी. भौतिकशास्त्र	15
		एम.एससी. वनस्पतिशास्त्र	15

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20.09.21

8	शास महाविद्यालय लखन, जिला बलीदाबाजार भाटापारा	डीसीए पीजीडीसीए	30 30
9	इदिरा गांधी शास महा वैशालीनगर, भिलाई जिला दुय	बी.कॉम (कम्प्यूटर एप्लीकेशन)	30
10	शास, राजीवगंधी स्नातकोत्तर महाविद्यालय, राजिम जिला गरियाबंद	डीसीए पीजीडीसीए	40 40
11	शासकीय महाविद्यालय, जनकपुर जिला कोरिया	पीजीडीसीए	60
12	शासकीय रामानुज प्रताप सिंहदेव स्नातकोत्तर महाविद्यालय, कुन्दपुर जिला कोरिया	एमएससी गणित	40
13	शास एस एन जी महाविद्यालय, मुंगली	एम.कॉम	40
14	शास महाविद्यालय अजुन्दा, जिला बालोद	पीजीडीसीए	40
15	शास, स्वामी आत्मानंद महा नारायणपुर	एम.कॉम	20
16	शास, रवतीरमण मिश्र महाविद्यालय सूरजपुर	एम.एससी जंतुविज्ञान	30
17	शासकीय महाविद्यालय राजपुर	बी.एससी, गणित समूह बी.सी.ए. डीसीए पीजीडीसीए Bachelor of Fashion Desining Degree B.Des and B.Sc एम एससी प्रश्नोशास्त्र एम एससी रसायनशास्त्र	60 50 50 60 30 20 20
18	शासकीय लरगसाय स्नातकोत्तर महाविद्यालय रामानुजगंज	डीसीए पीजीडीसीए	50 50
19	महंत श्री रामजानकी शरण दास वैष्णव शासकीय स्नातक महाविद्यालय, पिपरिया, जिला कबीरधाम	डीसीए पीजीडीसीए	80 80
20	शासकीय नवीन महाविद्यालय, कुई-कुकदुर जिला कबीरधाम	एम.एससी, रसायनशास्त्र एम.ए. भूगोल एम.ए. समाजशास्त्र एम.ए. राजनीतिशास्त्र एम.ए. हिन्दी बी.एससी, गणित समूह	30 30 30 30 30 140
21	शासकीय गजानन्द अग्रवाल स्नातकोत्तर महाविद्यालय, भाटापारा	बी.ए. (अंग्रेजी साहित्य)	50
22	शासकीय शहीद वीरनारायण सिंह महाविद्यालय बिलाईगढ़	एम.ए. भूगोल	40



23	शासकीय राम भजन राय एनई एम स्नातकोत्तर महाविद्यालय जशपुरनगर	एमए हिन्दी	30
		एमए समाजशास्त्र	30
24	टाकुर शासन सिंह शासकीय महाविद्यालय पथलगाव जिला जशपुर	एमएससी वनस्पतिशास्त्र	30
		एमए हिन्दी	40
		एमए राजनीतिशास्त्र	40
		एमएससी रसायनशास्त्र	30
		एमएससी वनस्पतिशास्त्र	30
		एमएससी गणित	30
25	शासकीय विजय भूषण सिंहदेव कन्या महाविद्यालय, जशपुर	M.Sc. (Computer Science)	30
		Bachelor of Physical Education (BPE)	50
26	शासकीय माता शबरी नवीन कन्या स्नातकोत्तर महाविद्यालय विलासपुर	एमए अंग्रेजी साहित्य	50
		एमए गृहविज्ञान	30
		एमएलिव (पुस्तकालय विज्ञान)	20
27	शासकीय पातालेश्वर महाविद्यालय मस्तूरी, जिला विलासपुर	एमएससी रसायनशास्त्र	40
		बीसीए	40
28	शासकीय महाविद्यालय,वरपाली जिला कोरबा	एमए हिन्दी	40
29	शासकीय ग्राम्य भारती महाविद्यालय हरदीबाजार जिला कोरबा	एम कॉम	40
30	शासकीय मिनीमाता कन्या महाविद्यालय, कोरबा	एमएस. डब्ल्यू (MSW)	30
31	शासकीय डॉ बाबा साहेब भीमराव अम्बेडकर स्नातकोत्तर महाविद्यालय डोंगरगाव	डीसीए	50
		पीजीडीसीए	30
		एमएससी रसायनशास्त्र	20
		एमएससी भौतिकशास्त्र	20
		बीपीएड	100
32	शासकीय नेहरू स्नातकोत्तर महाविद्यालय डोंगरगढ	पीजी डिप्लोमा इन योगा साईंस	100
		डीसीए	50
		बीएससी कम्प्यूटर साईंस	20
		बीए (समाजशास्त्र)	100
		बीए (समाजशास्त्र)	80
		बीए (अंग्रेजी साहित्य)	80
33	शासकीय लाल चक्रधर शाह महाविद्यालय अबागढ चौकी	बीए (अंग्रेजी साहित्य)	80
		बीए (भूगोल)	30
		एमए इतिहास	30
		एमएससी प्राणीशास्त्र	20
		एमएससी वनस्पतिशास्त्र	20
		एमएससी वनस्पतिशास्त्र	30
		एमएससी भौतिकशास्त्र	30
		Certificate course in Pisciculture	40
		Machine Learning and its Application	30
		Certificate in Applied Microbiology	30
35	शासकीय वी.बाय.टी. स्नातकोत्तर स्वशासी महाविद्यालय दुर्ग	Certificate Course in Soil and Water Analysis	30
		Certificate Course in English for Communication Skills	30



			Remote Sensing and Geographical Information System (G.I.S.)	30
			पूजा पद्धति एवं सरस्कार प्रशिक्षण प्रमाण पत्र	30
			P.G. Diploma in Criminology and Forensic Science	30
			Post Graduate Diploma in Library Automation And Networking.	30
			Diploma in Tally with Taxation	40
			Diploma Course in English Communication Skill	30
			PG Diploma in Guidance and Counselling	30
			छ.ग. लोक साहित्य प्रमाण पत्र	30
			Diploma in Concepts of Epidemiology	25
			Certificate course in indian freedom movement and constututional development	25
			Certificate course in Tourism Studies	20
			Certificate course in Vedic Ganit	40
36	शासकीय महाविद्यालय जांजगीर चांपा	डॉ.इन्द्रजीत सिंह अकलतरा जिला	बी.ए. (इतिहास)	40
			बी.ए. (भूगोल)	40
			बी.एस.एच.सी. (गृहविज्ञान)	40
			एम.एससी. भौतिकशास्त्र	20
			एम.एससी. वनस्पतिशास्त्र	20
			एम.एससी. प्राणीशास्त्र	20
37	शासकीय महाविद्यालय जांजगीर चांपा	बिरा जिला	एम.ए. हिन्दी	30
			एम.ए. राजनीति विज्ञान	30

उपरोक्त शासकीय महाविद्यालयों द्वारा स्ववित्तीय योजनांतर्गत प्रस्तावित विषय/संकाय को प्रारंभ करने की अनुमति निम्नांकित शर्तों के अधीन प्रदान की जावेगी :-

1. स्ववित्तीय योजना के अंतर्गत उक्त विषय/संकाय का संचालन शैक्षणिक सत्र 2021-22 से किया जावेगा।
2. शैक्षणिक/अशैक्षणिक कर्मचारियों की एवं लाइब्रेरी, फर्नीचर तथा उपकरण, कम्प्यूटर आदि की व्यवस्था संस्था को अपने स्वयं के स्रोतों से वहन करना होगा। इसके लिए किसी प्रकार का वित्तीय भार शासन द्वारा वहन नहीं किया जावेगा, अर्थात् राज्य शासन द्वारा भविष्य में किसी प्रकार का आवर्ती तथा अनावर्ती व्यय हेतु कोई भी अनुदान नहीं दिया जावेगा।
3. शिक्षकों की नियुक्ति विश्वविद्यालय अनुदान आयोग द्वारा निर्धारित शैक्षणिक योग्यता के आधार पर शासन के निर्धारित मापदंड पर की जावेगी।

4 उक्त विषय/सकाय प्रारंभ करने पर आय-व्यय के लेखों का सत्यापन विभागीय अंकेक्षण दल/सी.ए. द्वारा कराया जाकर प्रतिवर्ष उच्च शिक्षा संचालनालय को अपना प्रतिवेदन सौंपना होगा।

( ए.आर.खान )  
अवर सचिव

छत्तीसगढ़ शासन, उच्च शिक्षा विभाग

पृ क्रमांक एफ 3-96/2021/38-1

नवा रायपुर अटल नगर, दिनांक

/09/2021  
03 SEP 2021

प्रतिलिपि:-

1. आयुक्त उच्च शिक्षा संचालनालय की ओर उनके ज्ञापन क्रमांक 84/11/आउशि/योजना/2021-22, दिनांक 23.08.2021 के अनुक्रम में सूचनार्थ प्रेषित।
2. कलेक्टर: जिला-बिलासपुर/बालोद/राजनांदगांव/जांजगीर-चापा/रायपुर/बलौदाबाजार-भाटापारा/बालोद/गरियाबंद/दुर्ग/कोरिया/नारायणपुर/सूरजपुर/बलरामपुर/कबीरधाम/सरगुजा/कोरबा/(छ.ग.)
3. संबंधित प्राचार्य, .....
4. की ओर सूचनार्थ प्रेषित.  
आदेश फोल्डर।

अवर सचिव

छत्तीसगढ़ शासन, उच्च शिक्षा विभाग

PT. RAVISHANKAR SHUKLA UNIVERSITY: RAIPUR (C.G.)  
SCHOOL OF STUDIES IN COMPUTER SCIENCE

DIPLOMA IN COMPUTER APPLICATION, 2019-2020  
[DURATION - ONE YEAR - PART TIME]

The duration of the course shall be one year consisting of two semesters. There shall be three theory and one practical course in the each semester. There shall be grading system of awards.

FIRST SEMESTER:	DCA101	: Essential of Information Technology and OS
	DCA102	: Essentials of Office Automation.
	DCA103	: Programming in 'C' Language
	DCA104	: Practical based on DCA102 & DCA103.

DCA101

Essential of Information Technology and OS

1. Introduction to Computers

*Computer System Characteristics and Capabilities* : Speed, Accuracy, Reliability, Memory capability, Repeatability. *Computer Hardware and Software*, Block Diagram of a Computer. *Types of Computers*: Analog, Digital, Hybrid General and Special Purpose Computers. *Computer Generations*: Characteristics of Computer Generations Computer Systems – Micros, Minis & Main-frames. *Introduction to a PC* : The IBM Personal Computer Types of PC systems PC, XT & AT Pentium PC's.

2. Computer Organization

*Introduction to Input Devices* : Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, MICR, Voice Input Devices, Pointing Devices – Mouse, Light Pen. *Storage Devices* : Storage Fundamentals-Bits, Bytes, Primary Storage – RAM,ROM, Secondary Storage-Floppy Disks, Hard Disks, Optical Disks, CD/DVD. *Computer Output* : Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies.

3. Operating System

MS-DOS - Introduction, History and Versions of DOS. Booting Process, System Files and Command.com, Internal DOS Commands - DIR, MD, CD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE. Files & Directories, Elementary External DOS Commands - CHKDSK, MEM, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, HELP, TREE, SYS, LABEL, ATTRIB, Creating a Batch Files, Additional Commands - ECHO, PROMPT, MODE, EDIT, FORMAT, FDISK, BACKUP, RESTORE, MORE, SORT.

4. Windows

Windows Concepts, Features, Structures, Desktop, Taskbar, Start Menu, My Computer, Recycle Bin. Accessories : Calculator, Notepad, Paint, Wordpad, Character Map. Explorer : Creating folders and other Explorer facilities, Internet Explorer basics, navigating the Web, Control Panel.

5. Linux

Open Source Software concept and evolution of Linux, Features of Linux OS, Structure of Linux OS, File System, Directory Structure, Linux editors & Editor commands, Linux commands cd, md, rm, mv, ls, cat, find, grep.

Books

1. Using IT	: Williams T M Hill
2. IT	: Curtin T M Hill
3. Fundamental of Information Technology	: Chetan Shrivastava_Kalyani Publishers
4. Computer Fundamentals	: P.K Sinha BPB Publications
5. Working with UNIX	: Vijay Mukhi [BPB]

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## ESSENTIALS OF OFFICE AUTOMATION

1. **MS-Word-** Creating and editing word documents, formatting documents – aligning documents, indenting paragraphs, changing margin, formatting pages, formatting paragraph, printing labels, working with tables, formatting text in tables, inserting and deleting cells, rows and columns, use bulleted and numbering, checking spelling and grammar, finding synonyms, working with long documents, working with header and footer, adding page number and foot note, working with graphics, inserting clip art, working with pictures, Word art, creating chart & Graphs, creating flowcharts, working with mail merge, writing the form letter, merging form documents, merging to label, Working with Mailing lists and Data Sources, selecting merge records, creating macros, running macro.
2. **Working with MS-Excel** – Introducing Excel, use of excel sheet, saving, opening and printing workbook ,Apply formats in cell & text, Divide worksheet into pages , setting page layout, adding Header & Footer. Using multiple documents, arranging windows i.e. (Cascade, Tiled ,Split), protecting your work, password protection. Working with Functions & Formulas, using absolute reference, referencing cell by name , using cell label , giving name to cell and ranges , working with formulas (mathematical & trigonometric , statistical, date time , most recently used), Working with Excel graphics, creating chart & graphs. Working with lists & database, sorting a database, filtering a database ,using auto filter ,criteria range, calculating total and subtotal, creating pivot table, goal seek, recording & playing macros, deleting and selecting macro location.
3. **Presenting with PowerPoint** – Creating presentation, working with slides, different types of slides, setting page layout, selecting background and applying design, adding graphics to slide, adding sound and movie, working with table, creating chart and graph, playing a slide show, slide transition, advancing slides, setting time, rehearsing timing, animating slide, animating objects, running the show from windows.
4. **Introduction of DBMS through MS-Access** – Introduction to Database, DBMS, RDBMS, Features of Access, Designing Database, Relationship ( One to One, One to many, Many to Many), Create table ( Design View, Wizard, Datasheet View), Query (Update Query, Delete Query, Selection Query, Cross table Query, Make table Query).
5. **Introduction to TALLY**  
Accounting, Accounting Conventions (Single and Double Entry), Transactions, Types of Accounts, Personal Accounts, Real, Nominal, Rules of Accounting.  
Introsuction to Accounting Software [Ex. TALLY] – Creating of Company, Ledgers & Groups. Voucher Entry; Types of Voucher, Capital and Revenue, Income, Expenditure, Receipts, Preparation of Trial Balance, Profit & Loss Account & Balance Sheet.

### Suggested Books :

1. The Big Basics Book Of MS-OFFICE : Fulton, et al.

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*Deepti*

*Brah*  
27/4/19

*Penny*  
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*Shree*  
27-4-19



# DCA103

## PROGRAMMING IN 'C' Language

**Unit 1** - Introduction to C programming structure and C compiler, Data representation : Simple data types like real integer, character etc. Program, statements and Header Files, Simple Input Output statements in C, Running simple C programs. Primitive data types in C, char, integer, float, Double Long, Double Void etc.

**Unit 2**- Operators and Expressions – Arithmetic Operators, Assignment Operators, increment and decrement operator, relational and Boolean operators, Mixing of Different data types and operators for forming expressions.

**Unit 3**- Control Structure: If - statement, If -else statement, Multiway decision, Compound Statement, Loops: For - loop, While -loop, Do-While loop, Break statement, Switch statement, Continue statement, Goto statement. Arrays, Strings, Multidimensional Arrays, Strings, Array of Strings

**Unit 4**- Functions : Function main , Functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion function, Structure and Union, Declaring and using Structure, Structure initialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure,

**Unit 5** Pointers: Definition and use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.

### TEXT BOOKS :-

1. Let us C - Yashwant Kanitkar.
2. Mastering in C - Venugopal
3. Shaum's Series

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## ARRAY

8. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
  - a) To reverse the string.
  - b) To count the number of characters in string.
  - c) To copy the one string to other string;
  - d) To find whether a given string is palindrome or not.
  - e) To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
  - f) To arrange the alphabets of a string in ascending order.
9. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
  - a) Sort the elements.
10. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.
11. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
  - a) Addition of two matrix.
  - b) Subtraction of two matrix.
  - c) Multiplication of two matrix.
12. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
  - a) Sorting of string.
  - b) Finding the largest string.
  - c) Finding the smallest string.

## FUNCTIONS

13. Write program using the function power (a, b) to calculate the value of a raised to b.
14. Write a program to perform following tasks using switch...case, loops and function.
  - a) Find factorial of a number
  - b) Print Fibonacci series up to n terms and its sum.
15. Write a program to perform following tasks using switch...case, loops and **recursive** function.
  - a) Find factorial of a number
  - b) Print Fibonacci series up to n terms and its sum.
16. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

## STRUCTURE

17. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
18. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
19. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.

## POINTER

20. Write a program of swapping two numbers and demonstrates call by value and call by reference.
21. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
22. Write program to find biggest number among three numbers using pointer and function.

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# List of Practical

## MS- WORD

**File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.**

1. Open a document. Type the following text and perform the tasks as instructed below:-

### Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remote all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

1. Insert the following text after the first paragraph  
The main components of a word processing system are listed below:
  - Computer
  - Printer
  - A word processing software
2. Save the document as Word1.doc
3. Move the second paragraph to the end of the document. Using darg & drop.
4. Move the second paragraph in the end of the document using cut, paste operations.
5. Undo the above actions.
6. Now use Redo actions
7. Go to the End of the document ( in one step)
8. Go to the Beginning of document ( in one step)
9. Insert page break before the third paragraph.
10. Search the word "computer: in your document with options Match case, find whole words only.
11. Replace the word "typewriters" with "word processor"
12. Undo the above action
13. Remove All page breaks from your document
14. Change the magnification of your document to different percentages using zoom features.
15. Format the above written paragraphs and give the options as follows:
  - (1) Alignment justified
  - (2) Indentation: left 0.2 right:0.2
  - (3) Spacing: before 6 pt. after:6 pt.
  - (4) Special: first line by :0.4"
  - (5) Line spacing 1.5 lines.
16. Set the default tab stop to 0.3"
17. Set the margins to 1.25
18. Format the page using
  1. Left margin:0.5, right margin: 0.5
  2. Top margin:1.5, bottom margin:0.5
  3. Gutter Margin: 1indentation: left 0.2 right:0.2
  4. Header Margin:0.5
19. Format the each occurrence of group of words 'Word Processor' as bold, italic, under line and small caps using find and replace with formatting options.
20. Align the heading to Center and make it bold, underlined and italicized.

**File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.**

21. Type the text as show below and perform the tasks as directed:

Computers

COMPUTER is an electronic device that processes data and gives meaningful information.

Computers are being used in almost all the fields today

EXPERT SYSTEMS

HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

*K. Anis*  
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THE IMPACT OF COMPUTERS ON ORGANIZATIONS

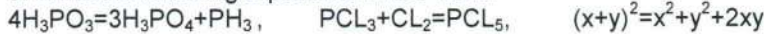
The information Processing Industry

The Positive impact on Using Organizations

The Potential Dangers for Using Organizations

1. Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
2. In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
3. Change the entire uppercase letter to lowercase.
4. Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
5. Centre aligns the Heading text Computer that appears in first line.
6. Apply outside border to entire document.
7. Apply outside border to the just heading text.
8. Change page setup according to the following specifications  
Top margin: 1.5", bottom margin: 1.5"  
Gutter: 1", left margin: 1.5"  
Right margin: 1"  
Page width: 7.5", page height: 6.5 "  
Orientation: portrait
9. Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
10. Give appropriate commands for giving different header and footers for first page and odd & even pages.
11. Save and close the document.

3. Write the following equations in MS-Word:



4. Write the following equations in MS-Word:



5. Write the following in MS-Word:

1. Preheat the oven to 220°C.
2. Copyright ©
3. Registered ®
4. Trademark ™

6. Create the following table in MS-Word:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

7. Create a document in MS-Word. Set the watermark as **Microsoft**. Also write the following text as formatted below:

**measuring programming progress by lines of code is like measuring aircraft building progress by weight.**

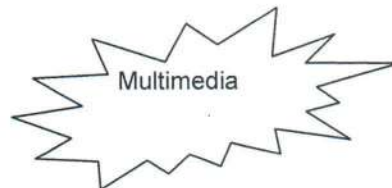
--Bill Gates

8. Create the following:



9. Create the following:

Computers



10. Create the following table in MS-Word:

Admission 2012-2013

Course	OC	OB	MBC	SC/ST	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

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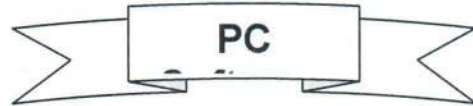
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11. Create Table as shown

Car		Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000

12. Insert the following in MS-Word.



13. Insert the following in MS-Word.



**Rabbit**

14. Write the following in MS-Word.

- This is sentencecase.
- this is lowercase.
- THIS IS UPPERCASE.
- This Is Capitalise Each Word.
- tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

- Actors
  - Bruce Willis
  - Gerard Butler
  - Vin Diesel
- Actress
  - Julia Roberts
  - Angelina Jolie
  - Kate Winslet
  - Cameron Diaz

16. Write the following in MS-Word:

1. Cricket Players

A. Batsman

- i. Sachin Tendulkar
- ii. Rahul Dravid
- iii. Virendra Sehwag

B. Bowler

- a. Kumble
- b. Zaheer Khan
- c. Balaji

C. Spinner

- a) Harbhajan
- b) Kumble
- c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends' address.

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27-04 2019



**MS – EXCEL**

1. Create the following worksheet and save the worksheet as wages.xls  
 PACE COMPUTERS (ATC CEDT), Govt. of India  
 Payroll for Employee (Temporary)

Today's date :	Pay Rate :
----------------	------------

Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

- (i) Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name	Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome	5000	10	450		1200		
Somya	9000	15	800		200		
Tanya	7000	12	900		1800		

- i. Calculate the total salary as sum of Basic salary, HRA ,DA, for each employee for 1997
- ii. Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- iii. Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

**Pace computer ( ATC CEDT ) Govt. Of India**  
 Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- i. allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- ii. find net salary as sum of bonus and salary

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			
Class Average						

- i. find Total of two subject for each student
- ii. find average of two subject for each student
- iii. find class as average of average column
- iv. find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- v. Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

1. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

2. create bar chart with given data

	2001	2002	2003
Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- i. Provide heading production detail
- ii. Provide z axis title; lacks metric tone
- iii. Provide x axis title year

*Kiran*  
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*Pradeep*  
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*Bhargava*  
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*Rohit*  
27/4/19

*Pradeep*

*Shree*  
27 Oct 2019

3. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- Sort the data according to Zone then by Department
- Use group and outline feature to show & hide details

8. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- Use filter command to show records having zone: West
- Use filter command to show records having zone: West and salary less than 5000
- Use filter command to show records having salary greater than 10000

9. Create pivot table using Data of exercise 8

1. Suppose a database exists in ms-access you are required to import the data. How will you?

11. Create a table using feature

Principle 1500  
Rate 4%  
Time 5

300	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

12. Using goal seek feature find out the interest rate it must be to earn interest 500

Principle 1500  
Rate 4%  
Time 5  
Interest 300

### MS-Access

Q.1. Create the following table in MS-Access:

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

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Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

**1. tblProducts**

**Primary Key - ProductID**

ProductID	Description	Category	Quantity	Cost	RetailPrice	Product Number	SalePrice	Taxable
-----------	-------------	----------	----------	------	-------------	----------------	-----------	---------

**2. tblSalesLineItems**

**Primary Key - SalesLineItemID**

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Discount
-----------------	---------------	-----------	---------------	----------	-------------	-------	----------

**3. tblSales**

**Primary Key - InvoiceNumber**

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate
---------------	----------	-------------	-------	---------------	-------------	---------

**MS PowerPoint**

Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.

Q 2 Create a PPT presentation use rehearse timing for the slide show

Q 3 Create PPT presentation slide import sound and video clips.

Q 4 Create PPT presentation with hyperlinking.

Q 5 Create PPT presentation and apply themes and transitions.

**Tally**

Preparing Balance Sheet for various companies.

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*Bob*  
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*Barry*  
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<b>Second Semester -</b>	<b>DCA105</b>	<b>: GUI - Programming in Visual Basic.</b>
	<b>DCA106</b>	<b>: E- Commerce</b>
	<b>DCA107</b>	<b>: HTML &amp; Internet Applications.</b>
	<b>DCA108</b>	<b>: Practical based on DCA105 &amp; DCA107.</b>

## DCA105 GUI - PROGRAMMING IN VISUAL BASIC

### UNIT - I

**Introduction to visual Basic:** Hardware requirements, features of VB, Editions of Visual Basic, and Event Driven Programming vs procedure oriented programming. Introduction to Integrated Development Environment. Basic concepts of Visual Basic programming: Controls, properties, methods, events, forms, projects. Creating Executable files.

Variables, constants, data types, data conversion function., scope of variables Operators

### UNIT - II

**Control Structure :** Conditional / branching statements : If...else..endif, Select case Looping statements: do.. while, for.. next, for each, exiting a loop, goto statement, msgbox and input box functions.

**Arrays:** types of arrays, array manipulation, Working with standard controls. Working with control array, various key and mouse events, using drag and drop concepts.

### UNIT - III

**Procedure and Functions:** types of function, library function, date and time function, format function, and string related function, validation function. Creating user defined function & procedure, call by value and call by reference, concept of recursion, working with basic module, class module and form module.

### UNIT - IV

**Working with Advanced Controls:** toolbar, status bar, tabbed dialog controls, progress bar, animation controls, dtpicker, calendar, common dialog control.

**SDI & MDI Application:** creating MDI application, menu editor: defining menu & popup menu, sub main, startup objects. Working with graphics control and using graphic methods.

### UNIT - V

**Data Access Using the ADO Data Control:** Basic concepts of relational database, visual data manager, introduction to SQL, concept of ODBC, Overview of DAO and RDO, Using DAO and RDO to access data. ADO features, difference among ADO, DAO and RDO, accessing and manipulating database using ADO, ADO object hierarchy, concept of recordset and its type, connection object, command object.

### BOOKS RECOMMENDED :

1. Introduction to OOP & V.B. – V.K. Jain (Vikas Publisher]
2. Data Base Management System - Alexies & Mathews [ Vikas publication]
1. Programming in Visual Basic - G.B. Sahoo & Rita Sahoo BPB Publications.
2. Programming in VB 6.0- Bradley – TM Hill.

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**DCA106**  
**E- Commerce**

**Unit – I :** Introduction to Electronic Commerce –The scope of E-commerce; Size, growth and future projection of E-commerce market Worldwide and in India; Internet and its impact on traditional businesses; Definition of E-commerce; Business models in E –Commerce environment; Case studies.

**Unit – II :** Emergence of E-commerce - E-commerce on private networks, Electronic Data Interchange (EDI), What is EDI, EDI in action, EDI basics, EDI standards, financial EDI, FEDI for international trade transaction, FEDI payment system within the US, ACH credit transfer payment system FEDI, application of EDI, benefits of EDI, Electronics Payment system, E-commerce on the web, E-commerce in India,

**Unit – III :** Internet, Security and E-Commerce: Security of Data/Information in Internet/web environment; Client security, Network security; Virus protection and Hacking; Security Measures: Authentication, Integrity, Privacy, Non-repudiation; Public information, Private information, firewall tunnels, encryption, secret key encryption, public key encryption, digital signature.

**Unit – IV:** *E-commerce Payment Systems* – E-Commerce Payment Models: Pure and Hybrid E-Commerce Payment Models; Credit Card; Debit Cards; Pre-paid Card; Online debit to the accounts; and Alternative Payment Systems employing Electronic Clearing System of Reserve Bank of India.

**Unit – V : Types of E-commerce** Business-to-Business (B2B), Business-to-Consumer (B2C); Business-to-Business-to-Consumer (B2B2C) and Consumer-to-Consumer (C2C) E-Commerce , Inter organizational transaction; Business transaction cycle, different types of transactions in E-commerce environment; Electronic markets, advantages and disadvantages of E-Market, Future of E-Markets; Inter- Organizational E-Commerce transactions; Advantages and Disadvantages of Inter-Organizational E-Commerce.

**Recommend Books –**

1. Business on the net - by Kamlesh N. Agarawala , Amit Lal & Deeksha Agarawal ( Macmillan India Ltd.).

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# DCA107

## HTML & Internet Applications

- 1. HTML Basics & Web Site Design Principles** – Concept of a Web Site, Web Standards, What is HTML? HTML Versions, Naming Scheme for HTML Documents, HTML document/file, HTML Editor, Explanation of the Structure of the homepage, Elements in HTML Documents, HTML Tags, Basic HTML Tags, Comment tag in HTML, Viewing the Source of a web page, How to download the web page source? XHTML, CSS, Extensible Markup Language (XML), Extensible Style sheet language (XSL), Some tips for designing web pages, HTML Document Structure. HTML Document Structure-Head Section, Illustration of Document Structure, <BASE> Element, <ISINDEX> Element, <LINK> Element, META, <TITLE> Element, <SCRIPT> Element, Practical Applications.
- 2. HTML Document Structure-Body Section** - Body elements and its attributes: Background; Background Color; Text; Link; Active Link (ALINK); Visited Link (VLINK); Left margin; Top margin, Organization of Elements in the BODY of the document: Text Block Elements; Text Emphasis Elements; Special Elements -- Hypertext Anchors; Character-Level Elements; Character References, Text Block Elements: HR (Horizontal Line); Hn (Headings); P (Paragraph); Lists; ADDRESS; BLOCKQUOTE; TABLE; DIV (HTML 3.2 and up); PRE (Preformatted); FORM, Text Emphasis Elements, Special Elements -- Hypertext Anchors, Character-Level Elements: line breaks (BR) and Images (IMG), Lists, ADDRESS Element, BLOCKQUOTE Element, TABLE Element, COMMENTS in HTML, CHARACTER Emphasis Modes, Logical & Physical Styles, Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER.
- 3. Image, Internal and External Linking between WebPages** - Netscape, Microsoft and Advanced Standard Elements List, FONT, BASEFONT and CENTER Insertion of images using the element IMG (Attributes: SRC (Source), WIDTH, HEIGHT, ALT (Alternative), ALIGN), IMG (In-line Images) Element and Attributes; Illustrations of IMG Alignment, Image as Hypertext Anchor, Internal and External Linking between Web Pages Hypertext Anchors, HREF in Anchors, Links to a Particular Place in a Document, NAME attribute in an Anchor, Targeting NAME Anchors, TITLE attribute, Practical IT Application. Designing web pages links with each other, Designing Frames in HTML. Practical examples.
- 4. Creating Business Websites with Dynamic Web Pages** – Concept of static web pages and dynamic web pages, Introduction to scripting, Types of Scripting languages, Scripting Files, Client Side Scripting with VB/Jscript/JavaScript, Practical examples of Client side scripting. Identifying Objects & Events, and Creating & Implementing Common Methods, Hosting & promotion of the web site, Domain Name Registration, Web Space allocation, Uploading / Downloading the website- FTP, cute FTP. Web Site Promotion Search Engines, Banner Advertisements.
- 5. Internet** - Technical foundation of Internet, Internet Service Provider, Anatomy of Internet, ARPANET and Internet History of World Wide Web, Services Available on Internet; Basic Internet Terminologies. Client server computing, Distributed Computing, Domain naming system, DNS Server, Internet Security, Internet Applications.

### Recommend Books –

1. Business on the net - by Kamlesh N. Agarawala, Amit Lal & Deeksha Agarawal
2. Introduction to HTML by Kamlesh N. Agarwala, O.P.Vyas, Prateek A. Agarwala.
- 3.. ASP Developer's Guide – by Greg Buczek (TATA McGraw Hill).
4. Information Technology Act 2000: [www.mit.gov.in/it-bill.htm](http://www.mit.gov.in/it-bill.htm)

### Online Resources— Indian Case Studies: URL's of some of the websites

India's first e-Commerce B2C e-tailer: [www.fabmart.com](http://www.fabmart.com)

India's first online trading netpreneurs [www.icicidirect.com](http://www.icicidirect.com)

India's first alternative payment alternative: [www.billjunction.com](http://www.billjunction.com)

Indian online grocery establishments: [www.fabmart.com](http://www.fabmart.com); [www.sangam.com](http://www.sangam.com); [www.subiksha.com](http://www.subiksha.com); and [www.myfoodworld.com](http://www.myfoodworld.com) for example.

India bank's offering Internet banking services: [www.icicibank.com](http://www.icicibank.com); [www.hdfcbank.com](http://www.hdfcbank.com); [www.gtb.com](http://www.gtb.com), for example.

[www.ncsa.uiuc.edu/General/Internet/www](http://www.ncsa.uiuc.edu/General/Internet/www).

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## DCA108 : Practical based on DCA105 & DCA107

### 1 Scheme of Examination:-

Practical examination will be of 3 hours duration. The distribution of practical marks will be as follows

Programme 1 (VB)	-	20
Programme 2 (VB)	-	20
Programme 1 (HTML)	-	10
Programme 2 (HTML)	-	10
Viva	-	25
[ Practical Copy + Internal Record ]	-	15
Total	-	100

- 2 In every program there should be comment for each coded line or block of code
- 3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 4 All the following programs or a similar type of programs should be prepared

### List of Practical of Visual Basic

2. WAP to perform arithmetic operation **using command buttons**. (Declare variables globally).
3. WAP to take input of principal, rate & time and calculate simple interest & compound interest.
4. Write a program to take input of x and print table of x in the following format.

```
X * 1 = X
X * 2 = 2X
-----
-----
```

```
X * 10 = 10*X
```

5. Design an interface, which will appear like marksheet. It will take input of marks in five subjects and calculate total marks and percentage then provide grade according to following criteria. (Using **nested if**) (Use tab index property to move focus).

If %	Then Grade
> = 90	A+
> = 75 & < 90	A
> = 60 & < 75	B
> = 45 & < 60	C
Otherwise	F

6. WAP to create a simple calculator (Using **control array**)
7. Write a program to check whether an centered no. is prime or not. (Using **for loop & Exit for**)
8. Write a program which will count all vowels, consonants, digits, special characters and blank spaces in a sentences (Using **select case**)
9. WAP to illustrate all functionalities of **listbox** and **combobox**.
10. WAP using **check boxes** for following font effects.

Bold  
Italic  
Underline  
Increase font size  
Decrease font size  
Font color

10. WAP for temperature conversion using **option button**.
11. WAP to launch a rocket using **pictures box** and **timer control**.
12. WAP to change back color of any control (label, textbox) using **scroll box**.
13. WAP to search an element for a **one dimension static array**.
14. WAP to sort a dynamic array of  
(a)n numbers  
(b)n strings (Input array size at run time)
15. WAP to take input of two matrices and perform their addition, subtraction and multiplication using **menu editor**.
17. WAP to illustrate **call by value and call by reference** ( to swap to values)
18. Write a program to calculate factorial of a number using **user defined function**.
19. Take input of a word and WAP to check whether it is a palindrome or not. (Without using **structure fun**)
20. WAP to find smallest among given three numbers using **user defined procedures**.
21. WAP to generate, print and find sum of first n elements of fibonacci series using **recursion**.
22. WAP to perform read write operations in a **sequential file**.
24. WAP to display records of a table using **DAO & bound control** code for buttons to move at first record, next record, previous record, last record in the table.

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25. Create a table using **visual data manager** and write a program using **RDO & advanced bound control** to add, delete, edit & navigate records.
26. WAP to access a database using **ADO &** display a key column in the combo box or list box when an item is selected in it, its corresponding records is shown in **MSH flex grid**.
27. Using **Data Environment** create a program to display records of any table.
28. WAP to generate marksheet of students in a class through **data report**.
30. Using **drive, directory and file list box** (it will show only .bmp files). Let the user select the bmb files, which will appear in picture box as user click on any item in list box.
31. Using **toolbar** design an interface for string manipulation. Toolbar should have tabs to  
(a) Find length of string (b) No of blank spaces in sting (c) Reverse the string  
Also show current date & time in **status bar**.

### HTML LIST OF PRACTICALS

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

- C
- C++
- Fortran
- COBOL

Q.3. Write an HTML program to create the following lists:

1. Java
2. Visual Basic
3. BASIC
4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30% , 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

#### New Delhi

*New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.*

Q.7. Write an HTML program to create the following table:

#### Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

#### Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

*Krin*  
27/4/19

*Bees*  
27-04-19

*Spm*  
*Banyan*  
27/4/19  
*Dotte*

*Brah*  
27/4/19  
*Iman*  
27-04-2019



## STUDENTS REPORT

Pandit Ravishankar Shukla University		
NAME	ROLL NO.	CLASS
Rahul	40	BCA-1
Preeti	85	BCA-1
Priya	74	BCA-1
Richa	95	BCA-1

Q.10. Write an HTML program to create the following table:

### Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75
	C	69

Q.11. Create an HTML document and embed a flash movie in it.

Q.12. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.13. Write the HTML coding to display the following table:

<b>Name</b>		Rahul	
<b>Roll No.</b>		101	
<b>Subject</b>	<b>Max</b>	<b>Min</b>	<b>Obtain</b>
Java	100	33	75
Multimedia	100	33	70

Q.14. Write an HTML program to create a form as the following:

Enter Name:

Enter Roll No.:

Enter Age:

Enter DOB:

Q.15. Write an HTML program to create a web page with an image as background and the following text:

### New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13<sup>th</sup> present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Q.16. Create the following HTML form.

USERNAME:

PASSWORD:

When user types characters in a password field, the browser displays asterisks or bullets instead of characters.

Done My Computer 100%

*Chak*  
*27/4/19*

*Premjeet*  
*27/4/19*

*Kris*  
*27/4/19*

*Arjun*

*Suman*  
*27/4/19*

*Arjun*  
*27-04-19*

*Arjun*

Q.17. Create the following HTML form.

FIRSTNAME :   
LASTNAME :

GENDER :  
Male  Female

SUBJECTS: Multimedia   
Multimedia  
Operating System  
CSA

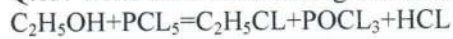
Q.18. Create the following HTML form.

Enter your name :   
Enter your rollno :

Subjects :  
 Java  
 C  
 Visual Basic  
 C++

Class: BCA I   
BCA I  
BCA II  
BCA III

Q.19. Write the HTML coding for the following equations:



Q.20. Write the HTML code to display the following:

- Actors
  - Bruce Willis
  - Gerard Butler
  - Vin Diesel
  - Bradd Pitt
- Actress
  - Julia Roberts
  - Angelina Jolie
  - Kate Winslet
  - Cameron Diaz

Q.21. Write the HTML code to display the following:

I. Cricket Players

A. Batsman

- i. Sachin Tendulkar
- ii. Rahul Dravid
- iii. Virendra Sehwag

B. Bowler

- i. Kumble
- ii. Zaheer Khan
- iii. Balaji

C. Spinner

- i. Harbhajan
- ii. Kumble
- iii. Kartik

*Kiran*  
27/4/19

*Datta*  
27-04-19

*Bal*  
27/4/19

*Sanjay*  
28/4/19

*Shree*  
27-04-2019

PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR (C.G.)

**POST GRADUATE DIPLOMA IN COMPUTER APPLICATION**  
**[DURATION – ONE YEAR – FULL TIME]**

The duration of the course shall be one year consisting of two semesters. There shall be three theories and two practical courses in the each semester.

**FIRST SEMESTER**

- PGDCA-101 : Fundamentals of Computers.
- PGDCA-102 : Office Automation and Tally.
- PGDCA-103 : Programming in C
- PGDCA-104 : Practical based on PGDCA-102.
- PGDCA-105 : Practical based on PGDCA-103.

**Second Semester**

- PGDCA-106 : Programming in VB .Net
- PGDCA-107 : Database Management Systems.
- PGDCA-108 : Internet and Web Technology.
- PGDCA-109 : Practical based on PGDCA106
- PGDCA-110 : Practical based on PGDCA107 and PGDCA-108

*Shree*  
27-4-19

*Shree*  
27.4.19



# FIRST SEMESTER

## PGDCA-101

### FUNDAMENTALS OF COMPUTERS

#### UNIT - I Introduction to Computers

**Computer system:** characteristics and capabilities. Computer Hardware and Software: Block Diagram of a Computer, Different Data Processing: Data, Data Processing System, Storing Data, Processing Data. Types of Computers: Analogue, Digital, Hybrid, General and Special Purpose Computers. Generation of Computers.

#### UNIT - II Computer Peripherals

**Introduction to Input Devices:** Categorizing Input Hardware, Keyboard, Direct Entry – Card Readers, Scanning Devices – O.M.R., Character Readers, Thumb Scanner, MICR, Smart Cards, Voice Input Devices, Pointing Devices – Mouse, Light Pen, Touch Screen. **Computer Output:** Output Fundamentals, Hardcopy Output Devices, Impact Printers, Non-Impact Printers, Plotters, Computer output Microfilm/Microfiche (COM) systems, Softcopy Output Devices, Cathode Ray Tube, Flat Screen Technologies, Projectors, Speakers.

#### UNIT - III Basic Components & Storage

**Central Processing Unit:** The Microprocessor, control unit, A.L.U., Registers, Buses, Main Memory, Main Memory (RAM) for microcomputers, Read Only Memory(ROM). **Storage Devices:** Storage Fundamentals, Primary and Secondary Storage, Data Storage and Retrieval Methods – Sequential, Direct & Indexed Sequential, Tape Storage and Retrieval Methods Tape storage Devices, characteristics and limitations, Direct access Storage and Microcomputers - Hard Disks, Disk Cartridges, Direct Access Storage Devices for large Computer systems, Mass storage systems and Optical Disks, CD ROM.

#### UNIT - IV Computer Software & Languages

**System Software:** System software Vs. Application Software, Types of System Software, Introduction and Types of Operating Systems. Boot Loader, Diagnostic Programs, BIOS, Utility Programs. **Application Software:** Microcomputer Software, Interacting with the System, Trends in PC software, Types of Application Software, Difference between Program and Packages. **Computer Languages:** Definition, Generations of computer languages, Types of Languages, Language Processors: Assembler, Interpreter, Compiler.

#### UNIT – V: Operating System and Linux

Introduction, Uses of OS, Functions of OS, Booting process, Types of Reboot, Booting from different OS, Types of OS, DOS, Windows, Linux Open source Software concept and evolution of Linux; Features of Multi-User Operating System; Structure of Linux OS; Security Features of Linux, File System, Directory Structure and related commands. Linux Editors & editor commands, Linux commands cd, md, rm, mv, cp, ls, cat, find, grep.

#### Books Recommended:

1. Computer Fundamentals, P. K. Sinha, BPB Publications, Sixth Edition.
2. Introduction to Information Technology, V. Rajaraman, PHI, Second Edition.
3. Operating System Concepts, Silberchartz, Galvin and Gagne, Wiley India Edition
4. Unix Concepts and Applications, Sumitabha Das, McGarw hill

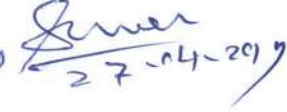
  
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# FIRST SEMESTER

## PGDCA-102

### OFFICE AUTOMATION AND TALLY

#### UNIT - I Using Office with MS-Word

Introduction to word processing software and its features, Creating new document, Saving documents, Opening and printing documents. **Home Tab:** Setting fonts, Paragraph settings, various styles (Normal, No spacing, Heading1, Heading2, Title, Strong), Find & replace, Format painter, Copy paste and paste special. **Insert Tab:** Pages, Tables, pictures, clipart, shapes, header & footer, word art, equation and symbols. **Page Layout Tab:** Page setup, page Background, Paragraph (indent and spacing). **Mailing Tab:** Create envelopes and Labels, Mail merge. **Review Tab:** Spelling and grammar check, New comment, Protect document, **View Tab:** Document views, Zoom, Window (New window, Split, Switch window).

#### UNIT – II Working with MS-Excel

Introducing Excel, Use of excel sheet, Creating new sheet, Saving, Opening, and printing workbook. **Home Tab:** Font, Alignment, Number, Styles and cells and editing, Conditional Formatting. **Insert Tab:** Table, Charts (column chart, Pie chart, Bar chart, Line chart) and Texts (header & footer, word art, signature line). **Page Layout Tab :** Page setup options, Scale to fit(width, height, scale). **Formulas Tab :** Autosum (sum, average, min, max), logical(IF, and ,or ,not ,true, false), Math & trig (sin, cos, tan, ceiling, floor, fact, mod, log), watch window. **Data Tab:** Get external data from MS Access, Sort and filter options , Data validation, Group and ungroup. **Review Tab:** Protect sheet, Protect workbook, Share workbook. **View Tab:** Page breaks, Page layout, Freezing panes, Split and hide.

#### UNIT – III Working with MS-PowerPoint

Introducing power point, Use of power point presentation, Creating new slides saving, Opening and printing. **Home Tab:** New slide, Layout, Reset, Delete, Setting text direction, Align text, Convert to smart art, Drawing options. **Insert Tab:** Table, picture, clipart, photo album, smart art, shapes and chart, movie and sound, hyperlink and action, text box , word art, object. **Design Tab:** Page setup options, slide orientation, applying various themes, selecting background style and formatting it. **Animations Tab:** Custom animation for entrance, exit and emphasis, applying slide transition, setting transition speed and sound, animation on rehears timing. **Slide show &view Tab:** Start slid show options, setup options. **View tab:** Presentation views, colours and window option.

#### UNIT – IV Working with MS-Access

Front end and back end of application, Introduction to DBMS, Features of DBMS, Creating blank databases, saving it in accdb format. Defining data types in ms access. **Home Tab:** Datasheet view, design view, pivot chart view, pivot table view, sort and filter options. **Create Tab:** Creating tables, Creating reports, Query wizard. **External Data Tab:** importing data from access and excel sheet, exporting data to excel and ms word. **Datasheet Tab:** Relationships, Fields and columns options, Data type and formatting options.

#### UNIT – V Tally

Setting up Ledger & Groups. Study of recording of transactions in the 'Voucher'. (According to Golden rules). Study of 'Final A/C preparation & displaying in different mode/format'. Study of alteration & Deletion of ledger/Groups. Study of cash & fund flow, day book, sales register, purchase register, bills receivable/Payable etc. Study of data security & backing up data. Outline of entry for Income Tax, ED, VAT, ST/CST, PF, Gratuity, Bonus, Loans & Depreciation etc.

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27/4/19  
27/04/2019



# FIRST SEMESTER

## PGDCA-103

### PROGRAMMING IN C

#### UNIT – I: Introduction:

Introduction Character set, Identifiers and Keywords, Variables, Displaying variables, Reading Variables, Character and Character String, Qualifiers, Type define Statements, Value initialized variables, Constants, Constant Qualifier, Operators and Expressions, Operator Precedence and Associativity, Basic input output: Single Character I/O, General Outputs, Types of Characters in format string, Scanf with specifiers, Searchset Arrangements and Suppression Character, Format Specifiers for scanf.

#### UNIT – II: Control Structures & Functions:

**Control Structure:** if-statement, if-else statement, multiple decisions, nested if statements, switch statement, for-loop, while-loop, do-while loop, break statement, continue statement, goto statement.

**Functions:** The main function, functions accepting more than one parameter, User defined and library functions, Concept associatively with functions, function parameter, Return value, recursion comparisons of Iteration and recursion variable length argument list.

#### UNIT – III: Arrays & Pointes:

Scope and Extent, Arrays, Strings, Multidimensional Arrays, Strings, Array of Strings, Function in String, Pointers: Definition and use of pointer, address operator, pointer variable, referencing pointer, void pointers, pointer arithmetic, pointer to pointer, pointer and arrays, passing arrays to functions, pointer and functions, accessing array inside functions, pointers and two dimensional arrays, array of pointers, pointers constants, pointer and strings.

#### UNIT – IV: Structure and Union:

Declaring and using Structure, Structure initialization, Structure within Structure, Operations on Structures, Array of Structure, Array within Structure, Creating user defined data type, pointer to Structure and function. Union, difference between Union and Structure, Operations on Union, Scope of Union.

#### UNIT – V: Dynamic Memory Allocation and File Handling:

**Dynamic Memory Allocation:** Library functions for Dynamic memory allocation, Dynamic Multi-Dimensional arrays.

**File Handling:** - Introduction, Structure, File handling, Functions file types, Un-buffered and buffered file, Error handling.

#### Recommended Books:

1. Let Us C - Yashwant Kanetkar.
2. Programming in C - E. Balagurusamy

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27-04-2019

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# FIRST SEMESTER

## PGDCA-104: Practical based on PGDCA-102

### 1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows:

Program 1 (MS-Office)	-	15
Program 2 (MS-Office)	-	15
Program 3 (MS-Office)	-	15
Program 4 (Tally)	-	15
Viva-Voice	-	20
[Practical Copy + Internal Record]	-	20
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

### List of Practical

#### MS- WORD

**File New, Open, Save, Cut, Copy, Paste, Drag Drop, Bullets and Numbering, Undo, Redo, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.**

1. Open a document. Type the following text and perform the tasks as instructed below:-

#### Working with Word Processor

As already mentioned, a word processor is a package that processes textual matter and creates organized and flawless documents. In addition to it a word processor not only remove all the limitations of typewriter but also offers various useful features that cannot be even dreamt of with typewriter.

Also if same textual matter is to be reproduced with minor changes, retyping the only option in typewriters.

The word processing (and word processor) originated way back in 1964 when special typewriters. Magnetic Tape Selectric typewriters (MIST) were launched by IBM (International Business Machines).

(i) Insert the following text after the first paragraph

The main components of a word processing system are listed below:

- Computer
- Printer
- A word processing software

(ii) Save the document as Word1.doc

(iii) Move the second paragraph to the end of the document. Using drag & drop.

(iv) Move the second paragraph in the end of the document using cut, paste operations.

(v) Undo the above actions.

(vi) Now use Redo actions

(vii) Go to the End of the document ( in one step)

(viii) Go to the Beginning of document ( in one step)

(ix) Insert page break before the third paragraph.

(x) Search the word "computer: in your document with options Match case, find whole

words only.

(xi) Replace the word "typewriters" with "word processor"

(xii) Undo the above action

(xiii) Remove All page breaks from your document

(xiv) Change the magnification of your document to different percentages using zoom

features.

(xv) Format the above written paragraphs and give the options as follows:

- Alignment justified
- Indentation: left 0.2 right:0.2
- Spacing: before 6 pt. after:6 pt.
- Special: first line by :0.4"
- Line spacing 1.5 lines.

(xvi) Set the default tab stop to 0.3"

(xvii) Set the margins to 1.25

*Handwritten signatures and dates:*  
Khan 27/4/19  
D. Dutta  
Rampal 27/4/19  
Suresh 27/4/19  
Bhan 27/4/19

## FIRST SEMESTER

- (xviii) Format the page using
- Left margin:0.5, right margin: 0.5
  - Top margin:1.5, bottom margin:0.5
  - Gutter Margin: 1 indentation: left 0.2 right:0.2
  - Header Margin:0.5
- (xix) Format the each occurrence of group of words 'Word Processor' as bold, italic, under line and small caps using find and replace with formatting options.
- (xx) Align the heading to Center and make it bold, underlined and italicized.

### File New, Open, Save, Find, Replace, Paragraph Formatting, Character Formatting and Page Formatting.

2. Type the text as show below and perform the tasks as directed:

#### Computers

COMPUTER is an electronic device that processes data and gives meaningful information. Computers are being used in almost all the fields today

#### EXPERT SYSTEMS

#### HUMAN THINKING AND ARTIFICIAL INTELLIGENCE

Can computer think?

AI at work Today: Natural Language programs and Expert Systems.

#### THE IMPACT OF COMPUTERS ON PEOPLE

The Positive Impact

The Potential Dangers

#### THE IMPACT OF COMPUTERS ON ORGANIZATIONS

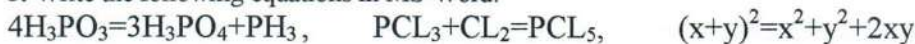
The information Processing Industry

The Positive impact on Using Organizations

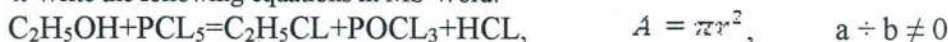
The Potential Dangers for Using Organizations

- Search for the word 'Computer' in the entire document. All the occurrences of the given word are to be searched irrespective of the case.
- In the above question note that word also searches 'computerization and 'computerisations'. Now make sure that this time Word searches only for the word 'computer' in the entire document.
- Change the entire uppercase letter to lowercase.
- Give a heading to the above written text 'COMPUTERS IN TODAY'S WORLD'
- Centre aligns the Heading text Computer that appears in first line.
- Apply outside border to entire document.
- Apply outside border to the just heading text.
- Change page setup according to the following specifications  
Top margin: 1.5", bottom margin: 1.5"  
Gutter: 1", left margin: 1.5"  
Right margin: 1"  
Page width: 7.5", page height: 6.5 "  
Orientation: portrait
- Give a header 'Creations' and footer 'The school of computing'. The footer should also consist of page no's.
- Give appropriate commands for giving different header and footers for first page and odd & even pages.
- Save and close the document.

3. Write the following equations in MS-Word:



4. Write the following equations in MS-Word:



5. Write the following in MS-Word:

- Preheat the oven to 220°C.
- Copyright ©
- Registered ®
- Trademark ™

6. Create the following table in MS-Word:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

*[Signature]*  
27-04-19

*[Signature]*

*[Signature]*  
27/4/19

*[Signature]*  
27/4/19

*[Signature]*

*[Signature]*  
27/4/19

*[Signature]*  
27-04-2019

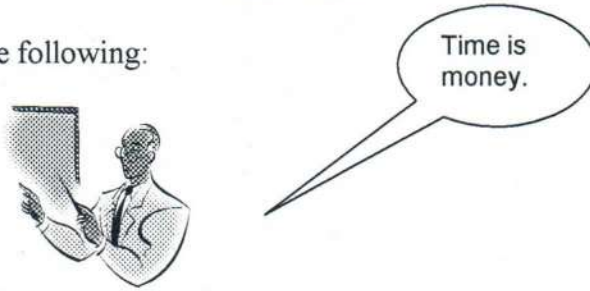


## FIRST SEMESTER

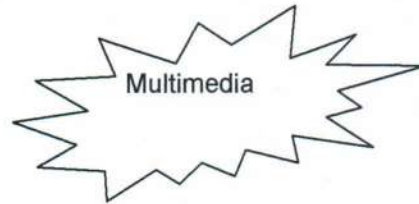
7. Create a document in MS-Word. Set the watermark as **Microsoft**. Also write the following text as formatted below:

*measuring programming progress by lines of code is like measuring aircraft building progress by weight.*  
--Bill Gates

8. Create the following:



9. Create the following:



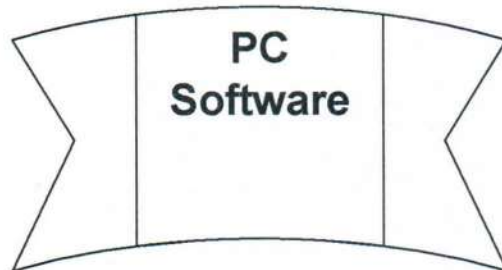
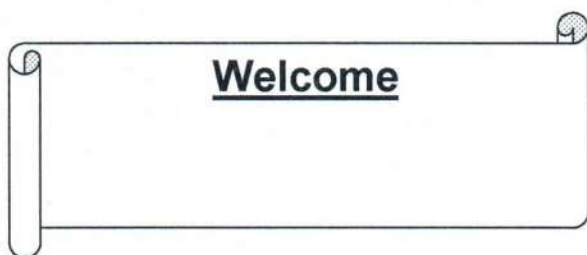
10. Create the following table in MS-Word:

Course	Admission 2011-2012				
	OC	OB	MBC	SC/ST	Total
Computer Science	9	18	5	5	37
Commerce	14	25	6	5	50
Mathematics	12	20	4	4	40

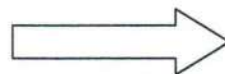
11. Create Table as shown

Car		Price
Maruti	Omni Van	200000
	Maruti 800	242000
Tata	Sumo	390000
	Sierra	447000

12. Insert the following in MS-Word.



13. Insert the following in MS-Word.



14. Write the following in MS-Word.

➤ This is sentencecase.

*(Signature)*  
27-04-19

*(Signature)*

*(Signature)*  
27/4/19

*(Signature)*  
27/4/19

*(Signature)*  
27/4/19

*(Signature)*  
27-04-2019



## FIRST SEMESTER

- this is lowercase.
- THIS IS UPPERCASE.
- This Is Capitalise Each Word.
- tHIS IS tOGGLE cASE.

15. Create the following list in MS-Word:

1. Actors

1. Bruce Willis
2. Gerard Butler
3. Vin Diesel

2. Actress

1. Julia Roberts
2. Angelina Jolie
3. Kate Winslet
4. Cameron Diaz

16. Write the following in MS-Word:

1. Cricket Players

3. Batsman

1. Sachin Tendulkar
2. Rahul Dravid
3. Virendra Sehwag

4. Bowler

- a. Kumble
- b. Zaheer Khan
- c. Balaji

5. Spinner

- a) Harbhajan
- b) Kumble
- c) Kartik

17. Write a letter to send invitation to your friend inviting on your birthday.

18. Create labels for your friends' address.

*[Handwritten signatures and dates for address labels]*

*[Signature]* 27-04-19

*[Signature]*

*[Signature]* 27/4/19

*[Signature]* 27/4/19

*[Signature]* 27/4/19

*[Signature]* 27-04-2019

## FIRST SEMESTER

MS – EXCEL

1.

Create the following worksheet and save the worksheet as wages.xls  
**PACE COMPUTERS (ATC CEDT), Govt. of India**  
 Payroll for Employee (Temporary)

Today's date :

Pay Rate :

Worker's Name	Hired On	days Worked	Gross Wages
Kushagra	3-Mar-07		
Pradeep	4-Mar-07		
Puneet	5-Mar-07		
Rajeev	6-Mar-07		

(I) Calculate days work and gross wages

2. Create the following worksheet and save the worksheet as wages.xls

Name Basic (monthly) (Rs.)	HRA(% of basic)	DA (Rs.)	Total Salary (1997)	Bonus (Rs)	Total Salary (1998)	% (Increase)
Shirome5000	10	450		1200		
Somya9000	15	800		200		
Tanya7000	12	900		1800		

- Calculate the total salary as sum of Basic salary, HRA ,DA, for each employee for 1997
- Calculate total salary for year 1998 as sum of salary of 1997 and bonus
- Calculate % increase in salary from 1997 to 1998

3. Create a worksheet as follows

**Pace computer ( ATC CEDT ) Govt. Of India**  
 Payroll for employee (Permanent)

Empcode	name	doj	salary	bonus	net salary
E001	Meenu	3-Mar-95	5000		
E002	Manoj	4-Mar-06	4000		
E003	Preeti	3-Mar-95	4800		
E004	Sumita	6-Mar-07	7500		

- allow bonus 8000 to employee having service >2 year other wise allow bonus 3000
- find net salary as sum of bonus and salary

4. create the worksheet as follows

Roll No	Name	English	Maths	Total	Average	Division
101	Kushagra	95	99			
102	Ajay	92	95			
103	Vijay	70	69			

Class Average

- find Total of two subject for each student
- find average of two subject for each student
- find class as average of average column
- find division of student as first, second, third, assume percentage of division of your own and maximum marks in each student as 100
- Apply conditional formatting for division column, first division should be in bold, second division should be in italic and third division should be underline

1. Create macro in excel to make selected cell, bold, italic outside bordered and center across select

2. create bar chart with given data

2001                      2002                      2003

27/4/19  
 27/4/19  
 27/4/19  
 27/4/19



## FIRST SEMESTER

Tea	19	23	25
Coffee	22	24	22
Sugar	45	40	45

- (I) Provide heading production detail
- (II) Provide z axis title; lacks metric tone
- (III) Provide x axis title year

3. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- i. Sort the data according to Zone then by Department
- ii. Use group and outline feature to show & hide details

8. Create a table with column heading as shown below and using form perform data entry of records.

Zone	Department	Employee	Salary
West	Marketing	Mukesh	10500
East	Sales	Rahul	20000
South	Marketing	Suresh	5500
North	Marketing	Anju	25000
South	Sales	Neeraj	8000
North	Sales	Ajay	8000
South	Marketing	Mahesh	7500
West	Sales	Rajesh	4500

- (I) Use filter command to show records having zone: West
- (II) Use filter command to show records having zone: West and salary less than 5000
- (III) Use filter command to show records having salary greater than 10000

9. Create pivot table using Data of exercise 8

1. Suppose a database exists in ms-access you are required to import the data. How will you?

11. Create a table using feature

Principle	1500
Rate	4%
Time	5

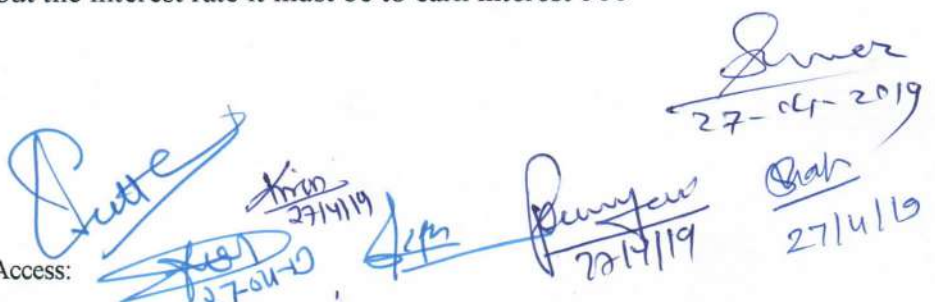
	3	4	5
1%	45	60	75
2%	90	120	150
3%	135	180	225

12. Using goal seek feature find out the interest rate it must be to earn interest 500

Principle	1500
Rate	4%
Time	5
Interest	300

### MS-Access

Q.1. Create the following table in MS-Access:


  
 Dute  
 27/4/19  
 Anju  
 27/4/19  
 Panyaw  
 27/4/19  
 Suresh  
 27-04-2019  
 Bab  
 27/4/19



## FIRST SEMESTER

Field Name	Data Type	Description
ContactID	AutoNumber	Primary Key
ContactType	Text 50	Type of contact (Wholesale, dealer, other)
Name	Text 50	Contact's first name
Company	Text 50	The Contact's employer
Address	Text 50	Contact's address
City	Text 50	Contact's city
State	Text 50	Contact's state
ZipCode	Text 50	Contact's zip code
Phone	Text 50	Contact's phone
Fax	Text 50	Contact's fax
E-Mail	Text 100	Contact's e-mail address
WebSite	Text 100	Contact's Web address
LastSalesDate	Date/Time	The most recent date the contact purchased something
DiscountPercent	Number	The customary discount provided to the customer
Notes	Memo	Notes and observations regarding this customer
Active	Yes/No	Whether the customer is still buying or selling products

Q.2. Create the following tables in MS-Access with the referential integrity-foreign key:

**1. tblProducts**

**Primary Key - ProductID**

ProductID	Description	Category	Quantity	Cost	RetailPrice	Product Number	SalePrice	Taxable
-----------	-------------	----------	----------	------	-------------	----------------	-----------	---------

**2. tblSalesLineItems**

**Primary Key - SalesLineItemID**

SalesLineItemID	InvoiceNumber	ProductID	ProductNumber	Quantity	Description	Price	Discount
-----------------	---------------	-----------	---------------	----------	-------------	-------	----------

**3. tblSales**

**Primary Key - InvoiceNumber**

InvoiceNumber	SaleDate	InvoiceDate	Buyer	PaymentMethod	TaxLocation	TaxRate
---------------	----------	-------------	-------	---------------	-------------	---------

**MS PowerPoint**

Q 1 Create a PPT of Atleast 10 Slides with one slide for comparison, one slide displaying a chart with the table.

Q 2 Create a PPT presentation use rehearse timing for the slide show

Q 3 Create PPT presentation slide import sound and video clips.

Q 4 Create PPT presentation with hyperlinking.

Q 5 Create PPT presentation and apply themes and transitions.

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# FIRST SEMESTER

## PGDCA-105 : Practical based on PGDCA-103

### 1 Scheme of Practical Examination:-

Practical examination will be of 3 hours duration. All programs should be with flowchart & algorithms. The distribution of practical marks is as follows and

Programme 1 (with flowchart & algorithms)	-	20
Programme 2 (with flowchart & algorithms)	-	20
Programme 3 (with flowchart & algorithms)	-	20
Viva-Voice	-	25
[Practical Copy + Internal Record]	-	15
Total	-	100

- 2 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.
- 3 In every program there should be comment for each coded line or block of code.
- 4 All the programs or a similar type of programs should be prepared as per the practical list.

### List of Practical

#### INPUT AND OUTPUT, FORMATTING

1. Write a program in which you declare variable of all data types supported by C language. Get input from user and print the value of each variable with alignment left, right and column width 10. For real numbers print their values with two digits right to the decimal.

#### LOOPS, DECISIONS

2. Write program to print all combination of 1 2 3.
3. Write program to generate following pattern

a) \* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*  
\* \* \* \* \*

c) \*  
\* \*  
\* \* \*  
\* \* \* \*  
\* \* \* \* \*

b) 1  
2 3  
4 5 6  
7 8 9 10

d) 1  
2 1 2  
3 2 1 2 3  
4 3 2 1 2 3 4

4. Write main function using switch...case, if..else and loops which when called asks pattern type; if user enters 11 then first pattern is generated using for loop. If user enters 12 then first pattern is generated using while loop. If user enters 13 then first pattern is generated using do-while loop. If user enters 21 then a second pattern is generated using for loop and so on.
5. Write program to display number 1 to 10 in octal, decimal and hexadecimal system.
6. Write program to display number from one number system to another number system. The program must ask for the number system in which you will input integer value then the program must ask the number system in which you will want output of the input number after that you have to input the number in specified number system and program will give the output according to number system for output you mentioned.
7. Write a program to perform following tasks using switch...case, loops, and conditional operator (as and when necessary).
  - a) Find factorial of a number
  - b) Print fibonacci series up to n terms and its sum.
  - c) Print sin series up to n terms and its sum.
  - d) Print exponential series up to n terms and its sum.
  - e) Print prime numbers up n terms.
  - f) Print whether a given year is leap or not.

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Date: 27/4/19  
Signature: [Handwritten]  
Date: 27/4/19  
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Date: 27/4/19  
Signature: [Handwritten]



## FIRST SEMESTER

8. Write program no. 6 but use library function to perform above tasks.

### ARRAY

9. Create a single program to perform following tasks using switch, if..else, loop and single dimension character array without using library function:
- To reverse the string.
  - To count the number of characters in string.
  - To copy the one string to other string;
  - To find whether a given string is palindrome or not.
  - To count no. of vowels, consonants in each word of a sentence and no. of punctuation in sentence.
  - To arrange the alphabets of a string in ascending order.
10. Create a single program to perform following tasks using switch, if..else, loop and single dimension integer array:
- Sort the elements.
  - Search for presence of particular value in array element using linear search.
  - Search for presence of particular value in array element using binary search.
11. Write a program that read the afternoon day temperature for each day of the month and then report the month average temperature as well as the days on which hottest and coolest days occurred.
12. Create a single program to perform following tasks using switch, if..else, loop and double dimension integer array of size 3x3:
- Addition of two matrix.
  - Subtraction of two matrix.
  - Multiplication of two matrix.
  - Inverse of matrix.
  - Transpose of matrix.
  - Sum of diagonal elements
13. Create a single program to perform following tasks using switch, if..else, loop and double dimension character array of size 5x40:
- Sorting of string.
  - Finding the largest string.
  - Finding the smallest string.
  - Searching for presence of a string in array.

### FUNCTIONS

14. Write program using the function power (a, b) to calculate the value of a raised to b.
15. Write program to demonstrate difference between static and auto variable.
16. Write program to demonstrate difference between local and global variable.
17. Write a program to perform following tasks using switch...case, loops and function.
- Find factorial of a number
  - Print Fibonacci series up to n terms and its sum.
  - Print Sin series up to n terms and its sum.
  - Print exponential series up to n terms and its sum.
18. Write a program to perform following tasks using switch...case, loops and recursive function.
- Find factorial of a number
  - Print Fibonacci series up to n terms and its sum.
  - Print Sin series up to n terms and its sum.
  - Print exponential series up to n terms and its sum.
  - Print natural series up to n terms and its sum
19. Write a function to accept 10 characters and display whether each input character is digit, uppercase letter or lower case letter.

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Sudha 27/4/19  
Anil 27/4/19  
Raj 27/4/19  
Suman 27/4/19  
2019



# FIRST SEMESTER


## Array & Function


20. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension integer array of size 3x3:
  - a) Addition of two matrix.
  - b) Subtraction of two matrix.
  - c) Multiplication of two matrix.
  - d) Inverse of matrix.
  - e) Transpose of matrix.
21. Create a single program to perform following tasks using switch, if..else, loop, user defined function and single dimension character array:
  - a) To reverse the string.
  - b) To count the number of characters in string.
  - c) To copy the one string to other string;
  - d) To find whether a given string is palindrome or not.
  - e) To count no. of vowels, consonant in each word of a sentence and no. of punctuations in sentence.
22. Create a single program to perform following tasks using switch, if..else, loop, function and single dimension integer array:
  - a) Sort the elements.
  - b) Find largest element and smallest element.
  - c) Search for presence of particular value in array element using linear search.
  - d) Search for presence of particular value in array element using binary search.
23. Create a single program to perform following tasks using switch, if..else, loop, function and double dimension character array of size 5x40:
  - a) Sorting of string
  - b) Finding the largest string, lexicographically.
  - c) Finding the smallest string, lexicographically.
  - c) Searching for presence of string in array.


## STRUCTURE & UNION

24. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare a structure variable of student. Provide facilities to input data in data members and display result of student.
25. Create a structure Date with data member's dd, mm, yy (to store date). Create another structure Employee with data members to hold name of employee, employee id and date of joining (date of joining will be hold by variable of structure Date which appears as data member in Employee Structure). Store data of an employee and print the same.
26. Create a structure Student having data members to store roll number, name of student, name of three subjects, max marks, min marks, obtained marks. Declare array of structure to hold data of 3 students. Provide facilities to display result of all students. Provide facility to display result of specific student whose roll number is given.
27. Write program to create structure complex having data members to store real and imaginary part. Provide following facilities:
  - a) Add two complex nos. using structure variables.
  - b) Subtract two complex nos. using structure variables.
  - c) Multiply two complex nos. using structure variables.
  - d) Divide two complex nos. structure variables.

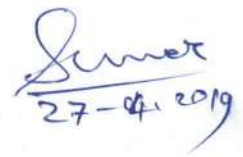
Use structure as argument to function and function returning structure.

  
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## FIRST SEMESTER

### POINTER

28. Define union Emp having data members:-one integer, one float and one single dimension character array. Declare a union variable in main and test the union variable.
29. Define an enum Days\_of\_Week members of which will be days of week. Declare an enum variable in main and test it.
30. Write a program of swapping two numbers and demonstrates call by value and call by reference.
31. Write program to sort strings using pointer exchange.
32. Write a program in c using pointer and function to receive a string and a character as argument and return the no. of occurrences of this character in the string.
33. Create a program having pointer to void to store address of integer variable then print value of integer variable using pointer to void. Perform the same operation for float variable.
34. Write program to find biggest number among three numbers using pointer and function.
35. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to store data of employee and print the stored data-using pointer to structure.
36. Write program to Create a structure Employee having data members to store name of employee, employee id, salary. Use Pointer to structure to simulate dynamic array of structure store data of n employees and print the stored data of n employees using pointer to structure.
37. Write a program to sort a single dimension array of integers of n elements simulated by pointer to integer. Use function for sorting the dynamic array.
38. Write a program to sum elements of a double dimension array of integers of m rows and n columns simulated by pointer to pointer to integer. Use function for sum the elements of the dynamic array.
39. Write program to demonstrate difference between character array and pointer to character.
40. Write program to demonstrate difference between constant pointer and pointer to constant.
41. Write program to demonstrate pointer arithmetic.
42. write program to demonstrate function-returning pointer.
43. Write program using self-referential pointer to structure to create and print the linked list, data structure.

### FILE STREAMS

44. Write program to copy content of one file to other file removing extra space between words name of files should come from command line arguments.
45. Write program to create a file 'data' containing a series of integers and count all even numbers present in the file 'data'.
46. Write a program to count no. of tabs, new lines, character and space of a file.
47. Write a program to read item number, rate and quantity from an inventory file and print the followings:
  1. Items having quantity > 5.
  2. Total cost of inventory.

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## SECOND SEMESTER

### PGDCA-106

#### PROGRAMMING IN VB .NET

##### UNIT - I : Introduction to .NET framework

Overview of .net framework features & architecture, Managed Execution process, CLR, common language specification, JIT Compilation, MSIL, Namespaces, Assemblies, metadata, Common Type System, Visual development & event driven programming, cross language, interoperability, Garbage collection.

##### UNIT - II : Programming with .NET Framework

Windows form: working with Visual Studio IDE, creating a .NET solution, MDI application, components and controls, Data types, variables, Type conversions, Operators, Methods and events, Scope and life time of variables, Creating Enumerations.

##### UNIT - III Control Structures

Control Structures: conditional statements, loops, arrays, types of methods, method data, creating Sub Procedures and Functions, MsgBox, Inputbox, Introduction to exception handling-try catch statement, finally statement, throw, user define Exception.

##### UNIT - IV GUI Programming

GUI Programming with window forms, Showing & hiding forms, Textbox, RichText box ,Lable, Button, Listbox, Combobox, Checkbox, Picturebox, Radio button, Toggle Button,Panel, Groupbox, Scrollbar, Timer, Dialog boxes, OpenFile Dialog, SaveFile dialog ,Print dialog, Font dialog, Color dialog, Designing menus and sub menus.

##### UNIT - V Database programming with ADO.net

ADO .NET Architecture, .NET data provider, dataset components, creating database applications using Window forms (Database connectivity through ADO .NET), Accessing data using server explorer, Data Adapters & Data sets, Command & Data reader, data bind control, displaying data in data grid.

##### BOOKS RECOMMENDED

- ✓ MSDN online – by Microsoft
- ✓ Visual Basic .NET Complete - By BPB Publications, New Delhi.
- ✓ The Complete Reference VB .NET – By Jeffery R. Shapiro, Tata Mcgraw Hill.
- ✓ Professional VB .NET 2003 – by bill Evjen & others, Wiley Dreamtech India (P) Ltd. New Delhi.

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## SECOND SEMESTER

### PGDCA-107

## Database Management Systems

#### UNIT – I: Introduction To DBMS

Purpose of database systems, views of data, Data Modeling, Database Languages, Transaction Management, Storage Management, Database Administrator and User, Database System Structure.

#### UNIT – II: E-R Model

Entity - Relationship model as a tool for conceptual design-entities, attributes and relationships. ER diagrams; Concept of keys; Case studies of ER modeling Generalization; specialization and aggregation. Converting an ER model into relational Schema

#### UNIT – III: Relational Model

Structure to Relational Database, select, project, cross product different types of joins (inner join, outer joins, self-join); set operations, Tuple relational calculus, Domain relational calculus, Simple and complex queries using relational algebra, stand alone and embedded query languages.

#### UNIT – IV: Relational Database Design

Normalization concept in logical model; Pitfalls in database design, update anomalies: Functional dependencies, Join dependencies, Normal forms (1NF, 2NF, 3NF). Boyce Codd Normal form, Decomposition, Multi-Valued Dependencies, 4NF, 5NF, De-Normalization.

#### UNIT – V: Introduction to RDBMS Software – SQL/Oracle

Introduction to personnel and Enterprises Oracle, Data Types, Commercial Query Language, SQL, SQL\* PLUS. **DDL and DML**: Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries. Views: What is Views, Create, Drop and Retrieving data from views. **Security**: - Management of Roles, Changing Password, Granting Roles & Privilege, with drawing privileges.

#### Recommended Books:

1. Data Base Systems : Silberschatz & Korth.
2. An Introduction to Data base System : C.J. Date
3. Data Base Management System : Raghu Ramakrishnan.
4. Data Base Management System : Elmasri & Nawathe.
5. Data Base Management System : Alexies & Mathews

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## SECOND SEMESTER

### PGDCA-108 INTERNET AND WEB TECHNOLOGY

#### UNIT – I

**Introduction to Computer and Hardware:** Introduction of Information Technology, History of Computers, Organization of computers, Number Systems, Programming language and types, Public domain software, Applications of Information Technology in business, industry, entertainment, science, engineering and medicine.

#### UNIT – II

**Internet and its Application:** Evolution of internet, Internet applications, TCP/IP, Addressing in Internet (IP), Domains, Internet service providers, Connectivity such as dial up, leased line, VSAT. E-mail protocols (X-400, SMTP, UUCP), Description of E-Mail headers, Email routing , e-mail client, POP-3, IMAP- 4.

#### UNIT – III

**FTP and Telnet:** Introduction to File Transfer Protocol(FTP), Types of FTP servers (including anonymous), Telnet protocol, Telnet client, Terminal emulation. Usenet and Internet relay chat, Web publishing tool, Website planning, Website Hosting , Multiple sites on one server, Maintaining a web site, WWW servers, HTTP & URLs, Registration of website on search engines , maintenance of website.

#### UNIT – IV

**Dynamic HTML and Web Designing:** HTML Basic concepts, Web designing issue, Structure of HTML documents, HTML Elements: Core attributes, Language attributes, Core Events, Block Level Events, Text Level Events, Linking Basics, Linking in HTML, Images and Anchors, Anchor Attributes, Image Maps, Semantic Linking Meta Information, Image Preliminaries, Image Download issues, Images as Buttons, Introduction to Layout: Backgrounds, Colors and Text, Fonts, Layout with Tables, Introduction to CSS.

#### UNIT – V

**Internet Security:** Internet security vulnerability and threats, Firewalls, Introduction to AAA, Malwares.  
**E-Commerce:** Introduction, Concepts & technology, Advantages, Limitations, Various electronics payment system, Payment Gateways, Introduction to EDI.

#### Text Books:

1. Computers Today, S.K.Basadra ,Galgotia Publication.2nd edition.
2. Internet for Every One , Alexis Leon and Mathews Leon, Tech World.2008 print.

#### Reference Books:

1. Introduction to Computers, P.K.Sinha ,BPB Publication, 6th edition.
2. Fundamentals of Computers, V.Rajaraman ,Prentice Hall of India,4th edition.
3. HTML Complete Reference, Thomas A. Powell, TMH
4. Frontiers of Electronics of Commerce , Ravi kalakota & Andrew B. Whinston Addison Wesley ,1196

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27-4-19  
Rangem 27/4/19  
Kiran 27/4/19  
Brah 27/4/19  
Suman 27-4-2019  
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## SECOND SEMESTER

### PGDCA-109: Practical based on PGDCA106

#### 1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows :

Program 1	-	20
Program 2	-	20
Program 3	-	20
Viva-Voice	-	20
[Practical Copy + Internal Record]	-	20
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

### Practical List

1. Design the form that calculates Sum, Multiplication, Division and Subtraction of two numbers.
2. Design Simple calculator.
3. Design the form to input radius of a circle and find its circumference and area.
4. Design the form to input length in centimeter and convert it into meter.
5. Design the form to input temperature in Celsius and convert it into Fahrenheit.
6. Design the form to input Principal amount, Time, Rate and calculate Simple Interest and Compound Interest show result information in msgbox.
7. Design a form that shows following operation related to array.
  - a) Sort array elements in ascending or descending order.
  - b) To insert an element in an array
  - c) To delete an element from an array at specified position.
  - e) Print all unique elements in the array.
8. Design a form to check whether a number is PRIME or NOT, using input box and msgbox.
9. Design the form to show the result and percent of PGDCA.
10. Design the following form. So when user clicks on Radio Button then select appropriate checkbox.

The screenshot shows a Windows application window titled "Use Of Option Buttons, Checkbox". Inside the window, there are three main sections:

- Gender:** Two radio buttons are present. The "Male" radio button is selected, while "Female" is unselected.
- Age:** Three radio buttons are present: "Less Than 18", "19 to 40", and "Over 40". All three are unselected.
- Rights:** Three checkboxes are present: "Drive Car", "Can't Drive Car", and "All Rights". All three are unselected.

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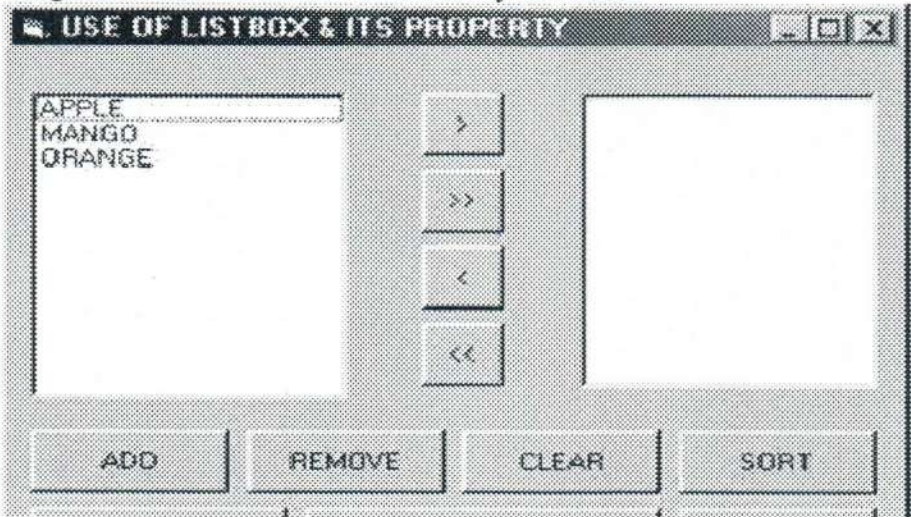
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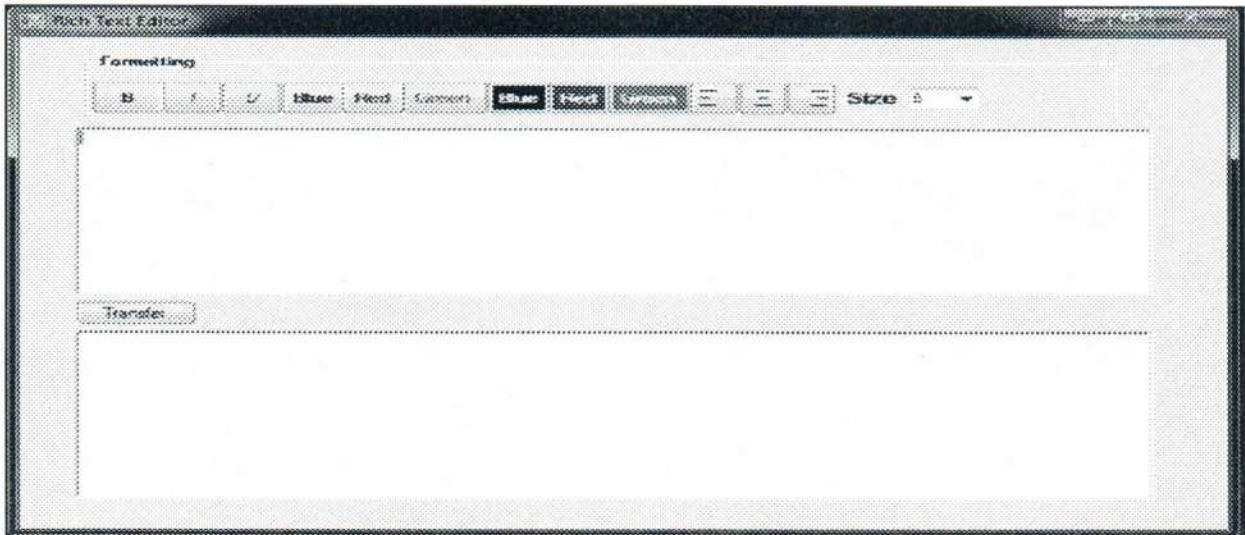


## SECOND SEMESTER

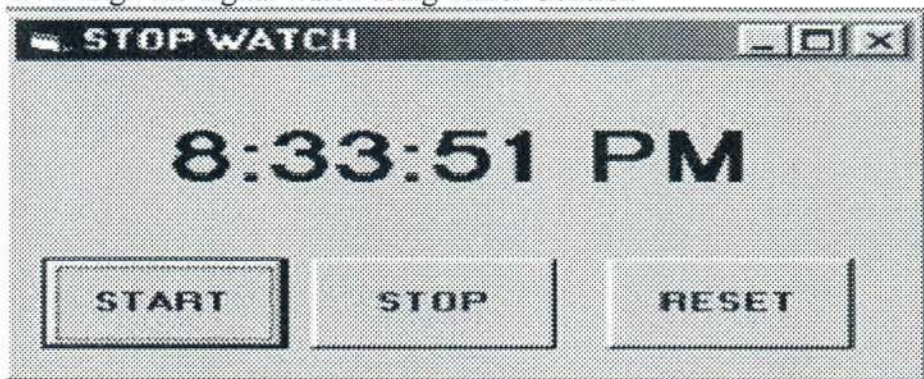
11. Design form that shows the functionality of listbox:



12. Design one form to create application like Rich text document using 1 Rich Textbox and different buttons. When user presses any of this command buttons then the selected content of Rich textbox Will be changed accordingly.



13. Design the digital watch using Timer Control.

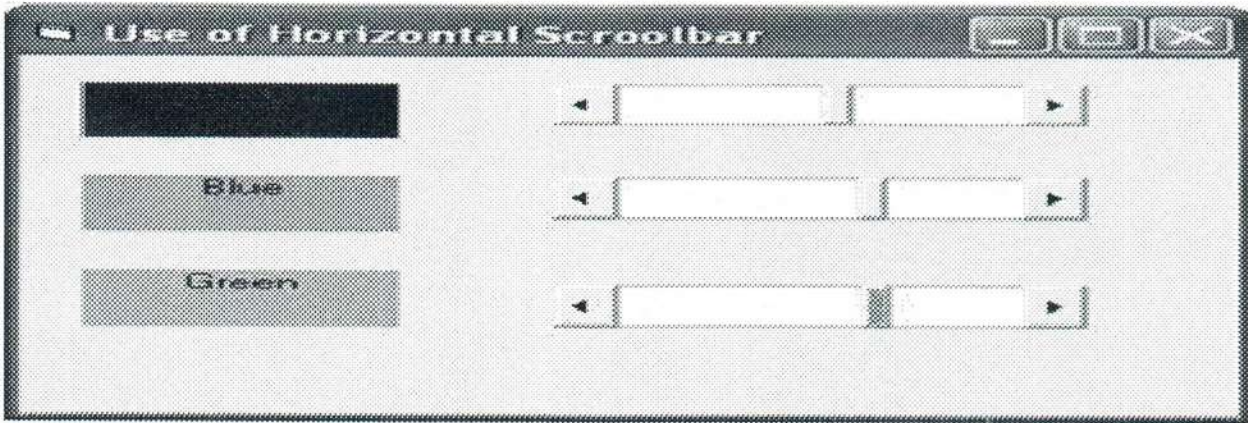


14. Design the following form using horizontal scrollbar. In this, when user click on particular scroll bar then back color of shape will be changed to Red, Green & Blue color

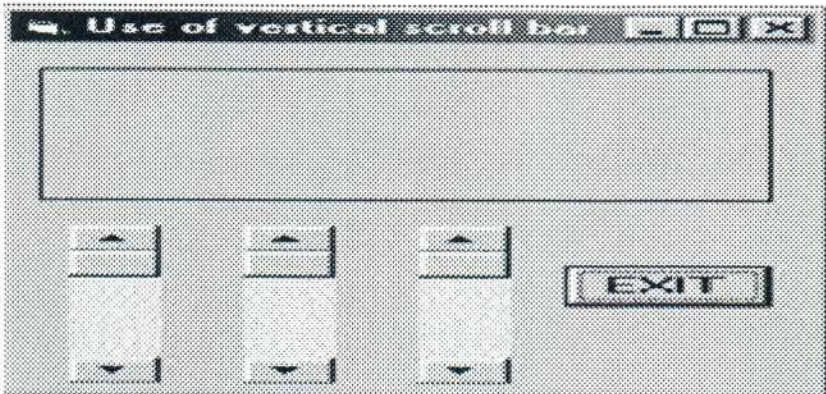
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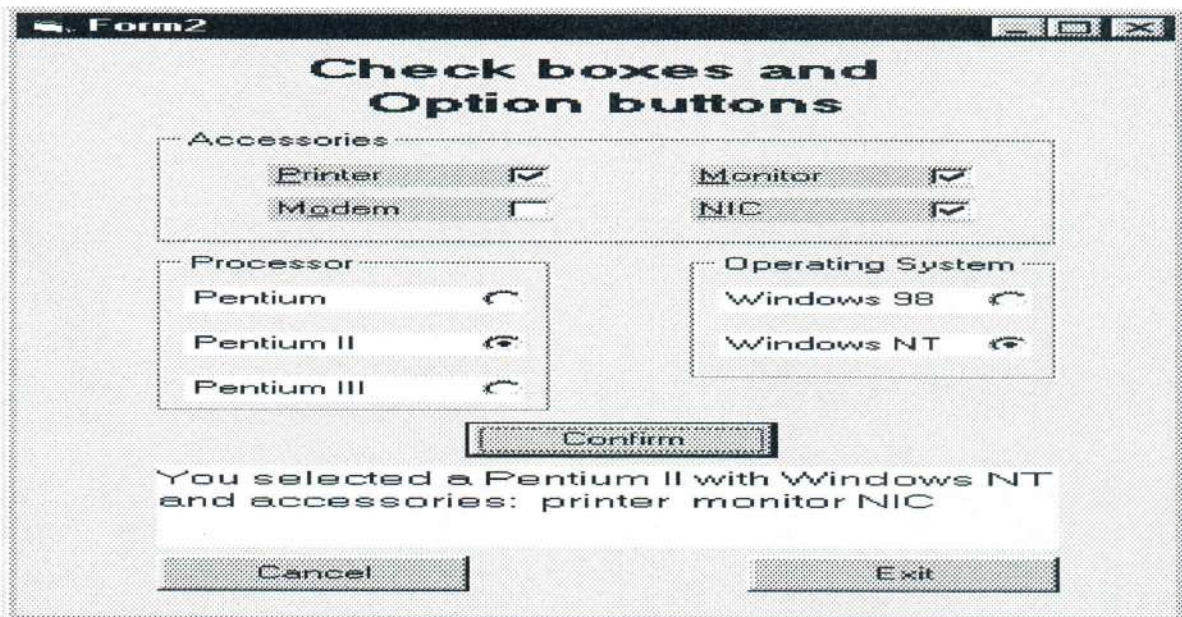
SECOND SEMESTER



15. Design the following form using vertical scrollbar. In this, when user click on particular scroll bar then back color of shape will be changed to Red, Green & Blue color



16. Design the form with different controls.



17. WAP for Exception handling of throwing an exception when dividing by zero condition occurs during arithmetic operation.

18. WAP in vb.net such that throw a user define exception when Temperature is zero.

19. WAP to demonstrate handling of multiple exceptions generated in program.

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## SECOND SEMESTER

20. Create following table

Student(id, name, course, DOB, address)

Write vb.net application to

Add records

view all the records

Delete the particular record

View all the student who are studying in course PGDCA using DataSet.

21. Write vb.net application to maintain loan database using connected scenario

Loan(id, cust\_num, name, amount, no\_of\_inst, amt\_inst, no\_of\_inst\_over)

Print all the customer who has to pay only one installment.

Print the total amount to be repaid by all the customer

22. Write vb.net application which accesses the following table.

Product\_master (pdt\_no, description, profit\_percent, uni\_measure, qty\_on\_hand, recorder\_level, cost\_price, sell\_price)

Perform insert, delete, view and search for items whose cost price is less than sell price.

23. Write a vb.net application that perform insert, update and delete operations on Employee table & perform a navigation operation on employee records using disconnected scenario.

24. Create table STUDENT with the following columns and datatypes.

Sid Alphanumeric

Name Varchar(20)

DOB DateTime

Addr Varchar(20)

Contact Varchar(10)

1. Insert following records into the table:

Sid	S1	S2	S3
Name	OshoJuneja	NishantSahni	SanyaDua
DOB	28-jan-93	1-oct-92	30-jul-94
Addr	ABC	XYZ	PQR
Contact	9000000000	8000000000	7800000000

ii) Select records from table where age > 22. [Use DOB for age calculation].

iii) Count the record in the table.

iv) Display records of the table order by DOB.

Perform using ADO.net in vb.net

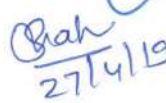
25. Write a vb.net program to show data in data grid view.

  
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## SECOND SEMESTER

### Practical based on PGDCA107 and PGDCA-108

#### 1. Scheme of Examination: -

Practical examination will be of 3 hours duration. The distribution of practical marks is as follows :

Program 1 (SQL)	-	15
Program 2 (SQL)	-	15
Program 3 (HTML)	-	15
Program 4 (HTML)	-	15
Viva-Voice	-	20
[Practical Copy + Internal Record]	-	20
Total	-	100

2 In every program there should be comment for each coded line or block of code.

3 Practical file should contain printed programs with name of author, date, path of program, unit no. and printed output.

4 All the following programs or a similar type of programs should be prepared.

#### HTML

Q.1. Write an HTML program to create the following table:

Class	Subject1	Subject2	Subject3
BCA I	Visual Basic	PC Software	Electronics
BCA II	C++	DBMS	English
BCA III	Java	Multimedia	CSA

Q.2. Write an HTML program to create the following lists:

(I) C

(II) C++

(III) Fortran

(IV) COBOL

Q.3. Write an HTML program to create the following lists:

1. Java

2. Visual Basic

3. BASIC

4. COBOL

Q.4. Write an HTML program to demonstrate hyperlinking between two web pages. Create a marquee and also insert an image in the page.

Q.5. Write an HTML program to create frames in HTML with 3 columns (Width = 30%, 30%, 40%).

Q.6. Write an HTML program to create a web page with a blue background and the following text:

#### New Delhi

*New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.*

Q.7. Write an HTML program to create the following table:

#### Admission

Course	OC	BC	MBC	SC/ST	TOTAL
Computer science	9	18	5	5	37
Commerce	14	25	6	5	50
Grand total					87

Q.8. Write an HTML program to create the following table:

*Handwritten signatures and dates:*  
Datta 27/04/19  
Kris 27/4/19  
Pranav 27/4/19  
Ramesh 27-11-19  
Raj 27/4/19



## SECOND SEMESTER

### Car Price List

Maruti		Tata		Ford	
Model	Price	Model	Price	Model	Price
Maruti 800	2 Lac	Sumo	2 Lac	Ikon	5 Lac
Omni	3 Lac	Scorpio	3 Lac	Gen	2 Lac

Q.9. Write an HTML program to create the following table:

#### Students Records

Name	Subject	Marks
Arun	Java	70
	C	80
Ashish	Java	75
	C	69

Q.10. Create an HTML document and embed a flash movie in it.

Q.11. Write the HTML coding to display the following table. Also insert an image in the web page.

Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70
Operating System	100	33	68
C++	100	33	73

Q.12. Write the HTML coding to display the following table:

Name		Rahul	
Roll No.		101	
Subject	Max	Min	Obtain
Java	100	33	75
Multimedia	100	33	70

Q.13. Write an HTML program to create a form as the following:

Enter Name:

Enter Roll No.:

Enter Age:

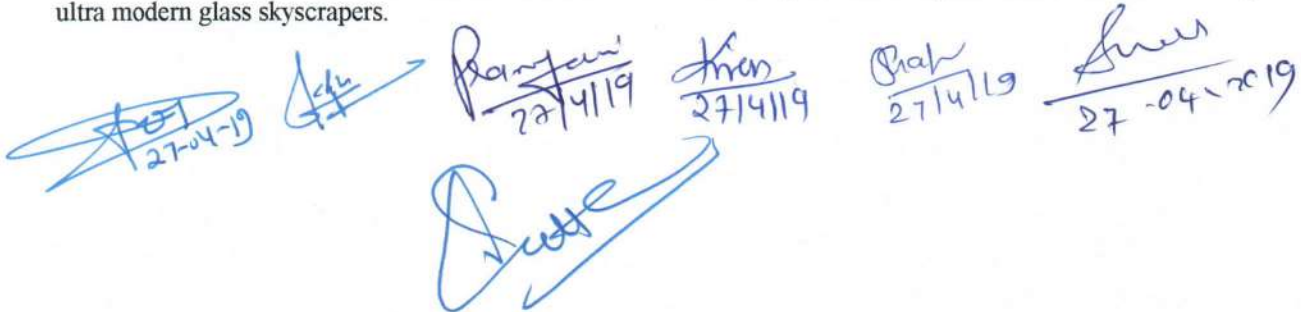
Enter DOB:

Q.14. Write an HTML program to create a web page with an image as background and the following text:

### New Delhi

New Delhi, the capital and the third largest city of India is a fusion of the ancient and the modern. The refrains of the Muslim dynasties with its architectural delights, give the majestic ambience of the bygone era.

On the other side New Delhi, the imperial city built by British, reflect the fast paced present. The most fascinating of all is the character of Delhi which varies from the 13<sup>th</sup> present century mausoleum of the Lodi kings to ultra modern glass skyscrapers.

Handwritten signatures and dates in blue ink. The signatures include 'Ranjana', 'Anon', 'Shah', and 'Suresh'. The dates are '27/4/19' and '27-04-2019'. There is also a large signature 'Dutta' at the bottom.

## SECOND SEMESTER

Q.15. Create the following HTML form.

USERNAME :

PASSWORD :

When user types characters in a password field, the browser displays asterisks or bullets instead of characters.

Done My Computer 100%

Q.16. Create the following HTML form.

FIRSTNAME :

LASTNAME :

GENDER :  
Male  Female

SUBJECTS:   
Multimedia  
Operating System  
CSA

Q.17. Create the following HTML form.

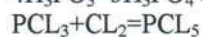
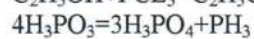
Enter your name :

Enter your rollno :

Subjects :  
 Java  
 C  
 Visual Basic  
 C++

Class:   
BCA I  
BCA II  
BCA III

Q.18. Write the HTML coding for the following equations:



*Free*  
27/4/19

*Pargen*  
27/4/19

*Pooja*  
27/4/19

*Shah*  
27/4/19

*Suman*  
27-4/2019



## SECOND SEMESTER

Q.19. Write the HTML code to display the following:

1. Actors

1. Bruce Willis
2. Gerard Butler
3. Vin Diesel
4. Bradd Pitt

2. Actress

1. Julia Roberts
2. Angelina Jolie
3. Kate Winslet
4. Cameron Diaz

Q.20. Write the HTML code to display the following:

1. Cricket Players

1. Batsman

1. Sachin Tendulkar
2. Rahul Dravid
3. Virendra Sehwag

2. Bowler

- d. Kumble
- e. Zaheer Khan
- f. Balaji

3. Spinner

- d) Harbhajan
- e) Kumble
- f) Kartik

## SQL

1. Using the following database,

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

- d. Create the above tables with the given specifications and constraints.
- e. Insert about 10 rows as are appropriate to solve the following queries.
- f. List the names of the teachers teaching computer subjects.
- g. List the names and cities of all staff working in your college.
- h. List the names and cities of all staff working in your college who earn more than 15,000

*Praveen*

*Praveen*  
27-04-19

*Praveen*

*Praveen*  
27/4/19

*Praveen*  
27/4/19

*Praveen*  
27/4/19

*Praveen*  
27-04-19

## SECOND SEMESTER

### 2. Using the following database,

Colleges (cname, city, address, phone, afdate)  
Staffs (sid, sname, saddress, contacts)  
StaffJoins ( sid, cname, dept, DOJ, post, salary)  
Teachings ( sid, class, paperid, fsession, tsession)  
Subjects ( paperid, subject, paperno, papername)

**Write SQL statements for the following –**

- Find the staffs whose names start with 'M' or 'R' and ends with 'A' and/or 7 characters long.
- Find the staffs whose date of joining is 2005.
- Modify the database so that staff N1 now works in C2 College.
- List the names of subjects, which T1 teaches in this session or all sessions.
- Find the classes that T1 do not teach at present session.

### 3. Using the following database,

Colleges (cname, city, address, phone, afdate)  
Staffs (sid, sname, saddress, contacts)  
StaffJoins ( sid, cname, dept, DOJ, post, salary)  
Teachings ( sid, class, paperid, fsession, tsession)  
Subjects ( paperid, subject, paperno, papername)

**Write SQL statements for the following –**

- Find the colleges who have most number of staffs.
- Find the staffs that earn a higher salary who earn greater than average salary of their college.
- Find the colleges whose average salary is more than average salary of C2
- Find the college that has the smallest payroll.
- Find the colleges where the total salary is greater than the average salary of all colleges.

### 4. Using the following database,

Colleges (cname, city, address, phone, afdate)  
Staffs (sid, sname, saddress, contacts)  
StaffJoins ( sid, cname, dept, DOJ, post, salary)  
Teachings ( sid, class, paperid, fsession, tsession)  
Subjects ( paperid, subject, paperno, papername)

**Write SQL statements for the following –**

- List maximum, average, minimum salary of each college
- List the names of the teachers, departments teaching in more than one department.
- Acquire details of staffs by name in a college or each college.
- Find the names of staff that earn more than each staff of C2 College.
- Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5% rise.

### 5. Using the following database,

Colleges (cname, city, address, phone, afdate)  
Staffs (sid, sname, saddress, contacts)  
StaffJoins ( sid, cname, dept, DOJ, post, salary)  
Teachings ( sid, class, paperid, fsession, tsession)  
Subjects ( paperid, subject, paperno, papername)

**Write SQL statements for the following –**

- Find all staff that do not work in same cities as the colleges they work.
- List names of employees in ascending order according to salary who are working in your college or all colleges.

*Devi*  
27-04-2019

*27-04-19*

*27/4/19*

*27/4/19*

*27/4/19*

*27/4/19*



## SECOND SEMESTER

- c Create a view having fields sname, cname, dept, DOJ, and post
- d Create a view consisting of cname, average salary and total salary of all staff in that college.
- e Select the colleges having highest and lowest average salary using above views.
- f List the staff names of a department using above views.

### 6. Using the following database,

Enrollment (enrollno, name, gender, DOB, address, phone)

Admission (admno, enrollno, course, yearsem, date, cname)

Colleges (cname, city, address, phone, afdate)

FeeStructure (course, yearsem, fee)

Payment (billno, admno, amount, pdate, purpose)

**Write SQL statements for the following –**

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. Get full detail of all students who took admission this year class wise
- d. Get detail of students who took admission in Bhilai colleges.
- e. Calculate the total amount of fees collected in this session
  - i) By your college
  - ii) by each college
  - iii) by all colleges

### 7. Using the following database,

Enrollment (enrollno, name, gender, DOB, address, phone)

Admission (admno, enrollno, course, yearsem, date, cname)

Colleges (cname, city, address, phone, afdate)

FeeStructure (course, yearsem, fee)

Payment (billno, admno, amount, pdate, purpose)

**Write SQL statements for the following –**

- a. List the students who have not payed full fee
  - i) in your college
  - ii) in all colleges
- b. List the number of admissions in your class in every year.
- c. List the students in the session who are not in the colleges in the same city as they live in.
- d. List the students in colleges in your city and also live in your city.
- e. Delete all the records of student who live in city Raipur.

### 8. Subjects ( paperid, subject, paper, papername)

Test (paperid, date, time, max, min)

Score (rollno, paperid, marks, attendance)

Students (admno, rollno, class, yearsem)

**Write SQL statements for the following –**

- a. Create the above tables with the given specifications and constraints.
- b. Insert about 10 rows as are appropriate to solve the following queries.
- c. List the students who were present in a paper of a subject.
- d. List all roll numbers who have passed in first division.
- e. List all students in BCA-II who have scored higher than average
  - i) in your college
  - ii) in every college

*[Signature]*  
27-04-19

*[Signature]*

*[Signature]*  
27/4/19

*[Signature]*  
27/4/19

*[Signature]*  
27/4/19

*[Signature]*  
27-04-2019

*[Signature]*