माध्यमिक शिक्षा बोर्ड , राजस्थान, अजमेर

Deleted Portion for Examination 2021
सैद्धान्तिक परीक्षा 2021 के लिए हटाया गया भाग

Subject : Computer Technology and Programing-II

विषय – सूचना प्रोद्योगिकी तथा प्रोग्रामिंग - II

कक्षा (Class) –XII विषय कोड (Subject Code) : **03**

Theory Paper

Name of the Book – Computer Technology and Programing-II

Unit No.	Chapter No.	Title	Explanation
I	2	Static and dynamic memory allocation and Pointer, definition, declaring and initializing pointer, meaning and static and dynamic allocation, memory allocation function, malloc, calloc, free and relock.	
I	2	Pointer in C	
I	2	Binomial Coefficient Programming	
I	2	Program to find GCD using Recursion	
I	3	Sorting	Complete Chapter
I	4	Stack	Complete Chapter
I	5	Link List	Complete Chapter
II	8	Function overloading	
II	8	Return Function	
II	9	Friend Function	
II	9	Returning Object	
II	9	Pointer to member	
II	11	Overloading Unary operator using friend function	
II	11	Overloading binary operator using member function	
II	11	Overloading binary operation using friend function	
II	12	Hierarchical Inheritance	
II	12	Hybrid inheritance	
II	12	Virtual base class	
II	12	Abstract Class	
III	13	Weak entities	
III	13	Translating ER into Relational Schema	
III	13	Example of Functional dependencies	
III	15	PL/SQL	Complete Chapter

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Revised Syllabus for Exam 2021
Theory Paper
सैद्धान्तिक परीक्षा 2021 के लिए संशोधित पाठ्यक्रम

Subject : Computer Technology and Programing-II

विषय – सूचना प्रोद्योगिकी तथा प्रोग्रामिंग - II

विषय कोड (Subject Code) : **03**

कक्षा (Class) –XII

Examination	Time (Hours)	Marks	Sessional Marks	Total	Total Marks
Theory	3:15	56	14	70	100
Practical	4:00	30	-	30	

Book Name - Computer Technology and Programming- II (Class-XII)

Unit No. and Name	Chapter No. and Name	Title and Subject Matter	Marks
I- Data Structure using C Language	Chapter – 1 Introduction to Data Structure Chapter - 2 Array Chapter - 3 Sorting	Introduction to Data Structure, Definition, Classification of Data Structure, Operation on Data Structure. Array Definition, Representation, Representation and Analysis, Single and Multi-Dimensional Array, Basic operation on array, Search, Linear Search, Binary Search, Character String in C, Fibonacci Series.	20
II- Object Oriented Programing with C++	Chapter - 6 Beginning with C++ Chapter - 7 Operators, Expression and Control Structures Chapter - 8 Function in C++ Chapter - 9 Class and Object Chapter - 10 Constructor and	Structure of C++ Program, Compiling and Linking, Token, Keywords, Identifiers and Constants, Basic Datatypes, User-defined Datatypes, Derived Data types, type compatibility, Declaration of variable. Introduction, Expression and their types, Operator Precedence and associativity, Control Structure Introduction, Function prototype, Call by reference, return by reference Introduction, Define class, defining member function, access modifier, array within class, static data member, static member function Introduction, Constructor, Parameterize Constructor, Multiple constructor in a class, constructor with default argument,	16

Unit No. and Name	Chapter No. and Name	Title and Subject Matter	Marks
	De Constructor Chapter- 11 Operator Overloading Chapter- 12 Inheritance	dynamic initialization of an object, copy constructor, Destructor Introduction, Operator function Introduction, defining derived class, single inheritance, multilevel inheritance, multiple inheritance	
III- Relational Database management System	Chapter - 13 DBMS concept Chapter - 14 SQL	Introduction to file System, Hierarchy of data, DBMS, Goal and advantages of DBMS, Application of DBMS, Abstraction level of DBMS, Schema, Instances, Database Languages, Classification of DBMS, Data Model, Hierarchical Data Model, Network and relational, ER model and ER Diagram, Different attribute types, mapping Cardinality constraints, Constraints, Introduction of Normalization, Relational Database design, Normal Forms, First Normal Forms, Second Normal Form, Third Normal Form, BCNF. Relational Database concept, Database Schema, Relational database instance, Primary key, data constraints, entity integrity, referential integrity, foreign key integrity, Introduction to SQL, Data definition Language, Data Manipulation Language, Data Control Language, Data Query Language and Related Commands, format model, Character, numeric and date format model, operators, logical value syntax and query expression operator, set Operator, Functions, commit, roll back, save point, query using group by and order by clauses. Joins, Query a single table, multiple table, ordering result, grouping the result, type of joins, sub queries.	**20**

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Revised Syllabus for Examination 2021
Computer Technology and Programming- II (Practical)

Instruction for Examiner:

For practical examination question paper will be not be provided by the B.S.E.R, Ajmer. Practical examination will be conducted by the examiner based on the facility of computer lab available in the school as per the following mark-wise scheme and prescribed syllabus.

S. No.	Subject	Marks
1.	Data Structure Program	8
2.	C++ Program	8
3.	DBMS Program	4
4.	Practical Record	5
5.	Viva-Voce	5

Detailed Description:-

1. Data Structure using C Language:- Write C-language program for following data structure and their basic operation – (a) Array
2. OOP Language (C++) - Using C++ language write program for following concept of OOP- (a) Class and Object (b) Inheritance (c) Polymorphism
3. RDBMS:- Write commands related to DDL, DML and DCL Using MySQL.

Note:- The marks weightage scheme for practical examination will be as follows -

1.	In the final practical examination, every student will be given one program of 8 marks from unit-1, one program of 8 marks from unit-2, and one program of 4 marks from unit-3 to perform on the computer	(20 Marks)
2.	Each student will prepare a Record file of programs related to all the units.	(5 Marks)
3.	An oral examination of each student will be taken by the examiner	(5 Marks)

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परीक्षा 2021 के लिए संशोधित पाठ्यक्रम

सूचना प्रोद्योगिकी तथा प्रोग्रामिंग -II (प्रायोगिक) (कक्षा -XII)

परीक्षक के लिए निर्देशः– प्रायोगिक परीक्षा के लिए कोई निर्धारित प्रश्न पत्र मा.शि.बोर्ड के द्वारा नहीं दिया जाएगा। परीक्षक द्वारा प्रायोगिक परीक्षा विद्यालय में उपलब्ध कम्प्यूटर लैब की सुविधा के आधार, निम्नलिखित अंकभार योजना एवं निर्धारित पाठ्यक्रम के अनुसार आयोजित की जाएगी।

क्र.सं.	विषय	अंक
1.	डाटा स्ट्रक्चर के प्रोग्राम	8
2.	C++ के प्रोग्राम	8
3.	DBMS के प्रोग्राम	4
4.	फाइल	5
5.	मौखिक परीक्षा	5

विस्तृत विवरणः–

1. C भाषा के द्वारा डाटा स्ट्रक्चरः– सी भाषा का उपयोग करते हुए निम्नलिखित डाटा स्ट्रक्चर एवं उनके मूल आपरेशन्स के प्रोग्राम लिखिए। (क) ऐरे
2. oop भाषा (C++) भाषा का उपयोग करते हुए निम्नलिखित oop अवधारणाओं के प्रोग्राम लिखिए। (क) क्लास एवं ऑब्जेक्ट (ख) इनहेरिटेन्स (ग) पोलिमोरफिज्म
3. RDBMS:- DDL, DML और DCL से सम्बन्धित सभी कमांडस MySQL का उपयोग करते हुए लिखिए।

नोटः– प्रायोगिक परीक्षा की अंक भार योजना निम्न प्रकार से होगी।

1.	अन्तिम प्रायोगिक परीक्षा में प्रत्येक छात्र को यूनिट–1 से 8 अंक, यूनिट–2 से 8 अंक और यूनिट–3 से 4 अंक प्रोग्राम कम्प्यूटर पर परफोम करने के लिए दिया जाएगा।	(20 अंक)
2.	प्रत्येक छात्र सभी यूनिट से सम्बन्धित प्रोग्राम्स की एक फाईल बनाएगें।	(5 अंक)
3.	प्रत्येक छात्र की सभी यूनिट की मौखिक परीक्षा परीक्षक द्वारा ली जाएगी।	(5 अंक)