Pir Mehr Ali Shah

**Arid Agriculture University, Rawalpindi**

*Office of the controller of Examinations*

**Final Exam (Practical) / Spring 2020 (Paper Duration 48 hours)**

**To be filled by Teacher**

Course No.: ……**CS-423**……..…………………Course Title: .….**Object Oriented Programming**………..……………

Total Marks:……**20**….……………………………Date of Exam:…**04-August-2020**…………....................................

Degree: …….…… **BS(CS)**………………………. Semester:…….…**2nd** …….…… Section:……**A/B, Mor/Eve**……..……

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Q.No.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Marks  Obtained/  Total Marks |
| **Marks**  **Obt**a**in**e**d** |  |  |  |  |  |  |  |  |  |  | \_ \_ /20 |

|  |
| --- |
| **Total Marks in Words:** |
| **Name of the teacher: Dr. Kashif Sattar** |
| **E-mail of the teacher: kashif@uaar.edu.pk** |
| **Who taught the course: Signature of teacher / Examiner:** |

**To be filled by Student**

Registration No.: ………………………………………….……… Name:………………………………………………………………….

**Note:** 1. Approximately paper solving time is 1.0 hr, however submission time is till 48 hours starting from the time of uploading question paper.

1. Try to upload paper as soon as possible to avoid DOS error at server due to bulk submissions in late hours.
2. There are total **Two (2)** questions in the paper and both are compulsory.
3. Only code is required so no need to add screen shots in the paper.
4. Make sure you have filled your Name and Reg. No. in the above provided space.
5. Upload the paper only through PC or laptop, Mobile submission is not allowed.
6. After submission view your answer sheet file on LMS and if there is something wrong contact the teacher by E-mail mentioned above, before the deadline (date & time) of paper submission.

**Answer the following questions.**

**Q.No.1. (Marks: 6x2=12)**

786 Cattle Farm is a very well-known cattle farm of Pothowar Region. It maintains an excellent stock of different breed of cattle that are specially fed and taken care of for the purpose of Qurbani each year at the time Bakra Eid. The Description of Breed is as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **786 Cattle Farm** | | | | |
| **Breed Type** | **Average Weight** | **Description** | **Price** | **Stock Left** |
| RS-1 | 130 Kg | 2 Years | 150 K | 10 Cattle 5 for each year |
| 150 Kg | 3 Years | 160 K |
| Ch-2 | 140 Kg | 2 Years | 160 K | 14 Cattle 7 for each year |
| 180 Kg | 3Years | 170 K |
| Th-1 | 190 Kg | 2 Years | 200 K | 5 Cattle |
| Ka-2 | 160 Kg | 3 Years | 190 K | 18 Cattle 6 for each year |
| 200 Kg | 4 Years | 200 K |
| 220 Kg | 5 Years | 210 K |

The Farm manger decided to design a program for selling the left cattle before Eid. The Program must have 2 type of users and provides the following functionality:

***For Manager:***

1. login() – to verify password stored in a file (pwd.txt)
2. store() – After authentication, to store data as an object of the above table on file (record.txt) including booking value as an integer (booking value is by default zero but when customer book some cattle it incremented by 1). You can use getData() function for getting input data from user and call it in store().
3. update() – After authentication, update Record on file if any cattle is booked (update [stock left value minus booking value] and change booking value =0).
4. remainingCattles() – After authentication, Total remaining cattles of all types in a single number e.g Remaining=15

***For Customer (login not required):***

1. search() – for searching (Based on Type & Price for only left over cattles)
2. book\_Cattle() – if available in the stock otherwise proper message for customer

Complete the class using C++ code and OOP concepts for the above design, main function is given for your help. In main function you have to write your Name and Arid number only where highlighted.

int main()

{

int option;

Farm f1;

do

{

system("cls");

cout << "\n&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&";

cout << "\n\tWelcome to the 786 Catle Farm Program";

cout << "\n&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&";

cout << "\n\tDeveloped by Your Name and Arid Number should be here";

cout << "\n&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&";

cout << "\n\tPress 1 for store data into file";

cout << "\n\tPress 2 for update data in file";

cout << "\n\tPress 3 for remainingCattles from file";

cout << "\n\tPress 4 for search record in file";

cout << "\n\tPress 5 for book cattle in file:";

cout << "\n\tEnter Option:";

cin >> option;

switch (option)

{

case 1: f1.store(); break;

case 2: f1.update(); break;

case 3: f1.remainingCattles(); break;

case 4: f1.search(); break;

case 5: f1.book\_Cattle(); break;

}

cout << "\n\n\tDo you want to continue...y/n:";

} while (\_getche() == 'y');

cout << "\n\tThanks for visiting 786 Cattle Farm!";

\_getch();

return 0;

}

**Answer Q.No.1.**

**Q.No.2. (Marks: 08)**

Discuss your Project/Enhanced lab work, by highlighting the variations in the OOP concepts you have used. You have to write just one-page summary, code is not required.

**Answer Q.No.2.**