**MOUNT ALVERNIA HIGH SCHOOL**

**INFORMATION TECHNOLOGY**

**SCHOOL BASED ASSESSMENT 2017-2019**

**DESCRIPTION OF THE PROJECT**

On A Mission High School is a private high school in Jamland and has been in existence for the past 50 years. Since the recession in 2008. Parents have been experiencing difficulty in honoring school fee commitments.

School fee compliance for the past 4 years has fallen dramatically and is now at an all time low of 60%.

The Board of Directors have met and devised a strategy dubbed – **BACK TO SCHOOL SPECIAL**.

The Board Chairman has commissioned the head of the IT Department along with staff to utilize appropriate Word Processing, Spreadsheet, Database Management and Programming Applications to design and implement a computer based solution to effectively execute the **BACK TO SCHOOL** **SPECIAL** plan.

**SPREADSHEET – DEU DATE THE WEEK OF MAY 7, 2018**

Create a Spreadsheet workbook called On a MissionSS-<Yourname>

**TASK A - Sheet 1**

Design a spreadsheet that will accept payment data for each grade level, lower school, upper school and sixth form.

**The tuition for each grade level would be:**

* Grades 7 -9 : $210,000.00 per annum (Lower School)
* Grades 10 -11: $270,000.00 per annum (Upper School)
* Grades 12 – 13: $300,000.00 per annum(Sixth Form)

**Payment plans available are:**

* **E-Full** or Early Full payment plan which attracts a 10% discount on the tuition if payment is made before the start of the school year Sept 6th of the current school year.
* **Bi-Payment** which is a Part Payment Plan: Where an initial payment of minimum of 50% is required for persons to be qualified for a 5% discount on the total tuition.
* **Tri-Payment** which is a three Part payment Plan: This option attracts a 7.5% interest which will be added to the tuition fee.

**Use the information above to create a rate sheet in an appropriate section on Sheet 1**

**NOTE: Be organized! Be Neat, Use ALL borders appropriately.**

**TASK A cont’d (Sheet 1)**

1. **In an appropriate section of sheet 1**, create a table in spreadsheet that records the following data for **20** students: ID Number, Last Name, First Name, Gender, and Grade Level. The student ID has a format as XX12PPP where XX is the student’s first and last name initial, 18 represents the year and PPP represents a three digit number starting at 001.

***Create appropriate main headings for each table***

1. Add a new column to determine the students school fee based on their Grade level.
2. Insert columns to:
	1. determine the appropriate payment plan for each student
	2. use an appropriate function to display the percentages for discount or interest based on the payment plan selected for each student.
	3. calculate discount or interest due for each student
	4. calculate the amount to be paid for tuition for each student
	5. enter the actual amount paid by each student
3. Calculate totals for all tuition, discount/interest, actual amount paid

**Rename the sheet as Payment1.**

**TASK B - Sheet 2**

Make a Copy of sheet 1. Rename the sheet as **Payment2.**

**Modify the spreadsheet (Payment 2) to show the following:**

1. A new student **O’Neil Golding** has been added to the upper school population, the student’s fee was paid in full. ***[Highlight the student you added]***
2. The third student was unable to meet the requirement for full payment plan and instead selected the tri-payment plan. Make the necessary changes. ***[Highlight the cell with the change].***
3. Insert a column to calculate the remaining balance to be paid
4. Sort the data by **payment plan** in ascending order then by last name in ascending order
5. In another section of the spreadsheet use **complex criteria** to extract all person who opted for bi-payment and tri-payment.
6. Create a summary table to show total males, total females, total students, total payments received, Total amount owed, maximum amount owed, minimum amount owed, Average Payments Received, the number of students on **bi-payment, tri-payment** and **E-full** plans.
7. The principal in a bid to encourage the payment of outstanding balances has decided to reduce the interest rate to 6.5%. Make the necessary changes to the spreadsheet.

**Save the changes (Ctrl + S or click the save icon)**

**TASK C**

The Principal has made plans to present a report to the Board Chairman who is interested in the payment plans along with expected revenues to be collected.

**You are required to:**

1. Create a pie chart to illustrate the population of female and male students. Use appropriate heading and add data labels.
2. Generate a bar graph to compare the school fee due and balances for each student on the bi-payment plan. Use appropriate heading and label chart axes.
3. Create a line graph to show the number of students on each payment plan. Use appropriate heading and label chart axes

**Email the entire workbook to** *10infotech2017@gmail.com* *cc: mahsbusiness101@gmail.com*

**DATABASE MANAGEMENT - DUE WEEK OF JUNE 4, 2018**

Information must be maintained on ALL students attending On a Mission High School. Using information from your spreadsheet, you are required to design and populate a database with students’ data.

1. Required personal information on student. This should include **Student ID, Name, Gender, Date of Birth (DOB), Contact, and Grade level.**
2. School fee data on **EACH** student is also required. These include **method of payment**, **School Fee Amount**, **Amount Paid** and whether a **discoun**t is given or the student pays **interest**.
3. Parent information is a third table of information required in respect of each student. This should include their **Names, Title, Address, Contact and Relationship**.

**You are required to:**

1. Create a database called ***On-a-MissionDB – Yourname***
2. Design and create database tables (files) to meet the required criteria. Appropriate data types/ fields which are to be used when designing the structure of each table.

**Hint: Three ORIGINAL tables should be in your database.**

**Note:** Create relationships, enforce integrity before performing queries.

1. Make a copy of each table. All changes **MUST** be made on the **ORIGINAL** table.

**Modification**

1. **Oneil Golding** is no longer a student at school. Delete ALL information for this student from the database.
2. A new student, **Ejaz Iskandar**, from Pakistan has been admitted. Add ALL relevant information for this student to the database. Add his parental information, too.
3. It was decided that the school will not contact the student for any matter; therefore, the principal has given instruction to delete the student’s contact number. Delete this field.

**Your database should respond to the following queries:**

1. List the last name, address, phone number of all Lower School students who have paid in E-full. Name this query **LS\_E-Full.**
2. List the names, Student ID and total paid of all students whose total payment exceeds 150,000. Name this query **L\_AmountPaid.**
3. Count the number of students who applied for the Tri-Payment option. Name this query **Count**\_**Tri-Payment.**
4. The age of student may be a factor in determining the Grade level of which they are apart. List the name and date of birth for students who are between the ages seventeen (17) to nineteen (19) inclusive. Name this query **SeventeenToNineteen.**
5. Calculate the total amount paid for each Method of Payment. Show Method of payment and Amount paid. Name the query **Method\_of\_Payment**.
6. The School Board is interested in contacting the parents for all students with outstanding balances. Perform a query to display *parents name, address, telephone number, student ID, total payment and balance* for these students. Name this query **Balance**.
7. Prepare a report which lists the names of all students who have made Part payment. The report must show each student’s name, student ID, Address, Grade level, amount paid, Balance. The report should be sorted by Last name and grouped by Grade level. For each grouping level the report must indicate the total paid and total balance. A grand total of total amount paid and balance should be indicated at the end of the report. The first line of the report title should be **‘Summary of Outstanding Balance’**.

**Email the entire database to** *10infotech2017@gmail.com* *cc:* *mahsbusiness101@gmail.com*

**WORD PROCESSING – DUE WEEK OF JULY 2, 2018**

**Task A - *Save as On-aMissionBrochure - Yourname***

1. The Board Chairman has instructed that an attractive brochure should be created to provide information about the school such as courses offered, extracurricular activities, achievements, school fees and payment plans.

**A table should be included in the brochure.**

**HINT: Be creative and professional, do NOT overdo it.**

**Task B - *Save as On-aMissionLetter - Yourname***

1. Using a suitable feature of the Word Processing application, prepare a letter to be sent to parents who have selected the BI-Payment plan. The letter should acknowledge receipt of registration form and indicate balance owing and due date.

**You are required to**

* Design a suitable letterhead for your document which should be placed in a header.
* A suitable footer must be inserted, with the words center aligned.
* The documents should show appropriate use of formatting features such as justification, bold, italic. Use 1” margin all round
* Construct your letter using appropriate language.
* Make a copy the letter and save as **Primary Letter-Copy**
* On the copy, create at least THREE errors and use spelling and grammar check to correct the error. Be sure to generate a screenshot of this process and submit a copy of the screenshot as evidence that you have used the spell check feature.

**Email ALL documents to** *10infotech2017@gmail.com* *cc: mahsbusiness101@gmail.com*

**Introduction to Problems Solving and Program Implementation - DUE DECEMBER 2018**

1. Develop a pseudocode algorithm or draw a flow chart that will accept students’ information such as name, ID number and grade level. The algorithm should also determine the school fee based on the student’s grade level (***this information should be taken from spreadsheet***). The program should determine whether or not the student qualifies for a discount based on the payment option selected. Persons who select the early full payment plan (E-FULL) will be given a discount of 10%. Persons who select the two part payment plan (BI-Payment) will be given a discount of 5%. Persons who select the three part payment plan (TRI-Payment) will be required to pay an interest of 7.5% on the tuition cost. The name of each student along with their outstanding balance should be printed.
2. Design and execute a trace table that accepts the data for each student in the database.

**Email both documents to** *10infotech2017@gmail.com* *cc:* *mahsbusiness101@gmail.com*

1. Using the programming language Pascal, write an executable program code to implement the algorithm above

**Email executable file to** *10infotech2017@gmail.com* *cc: mahsbusiness101@gmail.com*