

PUSASQF406
Advanced Application of Excel

Time: 2 hours
Total Marks: 60 marks

Note:

- 1) All questions are compulsory, except question 4 where you must do either part A or B.
- 2) All subs and functions should be written in the workbook itself and the excel file should be saved as an .xlsm file and submitted.
- 3) Kindly use comments in your code to indicate the question number as well as any explanation that you wish to provide.
- 4) **PLEASE MAKE A BACK_UP COPY OF the EXCEL SHEET SO THAT AN ERRONEOUS MACRO DOES NOT RESULT IN YOUR WORK BEING DELETED.**

Q1. Refer to Sheet “Q1”:

- A) **5 Marks**
Change the code of the macro *current_time* so that it displays the current time in cell B3 of sheet Q1 only.
- B) **5 Marks**
Change the code in the macro *Mag_ten* so that it displays 10 random numbers in cells A4:A13 of sheet Q1 only.
- C) **5 Marks**
Use macro recorder to create a macro called *random_colour* that applies conditional formatting to cells A4:A10 (different colors depending on values) of sheet Q1 only. Streamline the code as much as you can by removing all unnecessary lines.

Q2. Refer to sheet “Q2”:

- A) **5 Marks**
Write an event-driven macro, that is run as soon as the sheet Q2 is activated. The macro should display a message box asking – Do you want to know the time? [The relevant date function is **Date**]
- B) **5 Marks**
On clicking yes, display another message box with the current date.
- C) **5 Marks**
Write another event driven macro that runs on deactivating the sheet Q2. The macro should show a display message – “Are you sure you want to leave this sheet Q2?” On clicking yes, the user should be able to move away. On clicking No, the user should stay on the sheet.

Q3. Solve either Part A or B:

30 Marks

Q3A. a)

10 Marks

Write a function (not a sub) to calculate the factorial of a number. The function should take just 1 argument : n.

b) 10 Marks

Use the factorial function that you wrote to create another function that calculates the binomial coefficient, given two numbers N and k [Hint: Binomial coefficient $=C_k^n$]. The function should take 2 arguments : n and k.

c) 10 Marks

Now use the above function to create a function *probbinomial* that calculates the probability of getting k heads in n tosses for a biased coin with probability p of landing a head. The function should take 3 arguments: n, k and p. [Hint: $C_k^n(p)^k(1-p)^{n-k}$]

Q3B.

30 Marks

a)

10 Marks

(Refer to sheet Q3B) The sheet contains daily stock data for a stock.

1.Create a user form that has the following fields:

Date:
Open Price
High Price
Low Price
Close Price

And the following buttons with given functionality:

Button	Functionality
Add Record	Adds the data entered into the form into the sheet in row 3 by moving the other records down.
Reset	Resets the form by making all the text fields blank
Close Form	Closes the form

b)

10 Marks

Build in a data validity check so that :

- if the user leaves any field blank, then the form should not accept the data and display the error message
- If the user enters non-numeric data, then the form should not accept the data and display the error message
The error message should be - "invalid data, please re-enter."

c)

10 Marks

Write a macro, *draw_chart* that replaces the current chart with the updated chart.