UNIVERSITY
OF
JOHANNESBURG

FACULTY	: Education
DEPARTMENT	: Science and Technology Education
CAMPUS	: APK
MODULE	: METHODOLOGY & PRACTICUM: S ROLE SCHOOL ICT 3A (MOFPIA3)
SEMESTER	: First
EXAM	: May 2020

ASSESSOR(S)	: MR M MOODLEY		
MODERATOR	: DR R DISEKO (UJ)		
DURATION	: 2 HOURS	**MARKS**	: 100

NUMBER OF PAGES: 9 PAGES

INSTRUCTIONS:

Read the following instructions carefully before answering the questions:

1. This examination is taken online and off-campus. All questions are to be completed using the appropriate computer software. No handwritten answers may be submitted.

2. Answer all questions.

3. You are strongly advised to save the files that you are working on at regular

intervals as to minimise the effect of computer malfunctions. For this purpose, you may access an online file repository system (for example *Dropbox* or *Google Drive*) and temporarily store your files there.

4. Attach all completed files using the link "Submit Exam Files" in the ULink online environment.

5. Answer Questions 1 in an MS-Word document.

   Answer Question 2 as a Power point presentation

   Answer Question 3 in an MS Excel workbook

6. You may use the Internet but ensure you manage your time well.

QUESTION 1

By TRACY BURROWS, ITWeb contributor.
Johannesburg, 15 Jul 2002

ICT in education: Can the digital divide be bridged?

The SA picture

In SA, a significant number of children do not have access to basic supplies such as pens, textbooks or even classrooms, much less electricity and ICT. Even in urban schools equipped with electricity, an alarming number of teachers have never used a PC. Insiders say schools in Johannesburg have been known to teach children PC keyboard skills by sending them home to practise typing on a drawing of a keyboard.

In contrast, the wealthier students in more upmarket schools have access to computer-literate teachers, computer labs and top-of-the-range home PCs and digital gizmos. So instead of becoming the great equaliser, IT could end up being the wedge that drives the haves and have-nots even further apart.

One of the most notable initiatives to promote the use of ICT in schools is the R500 million Gauteng Online project launched last year, with a view to ensuring that every school in Gauteng has Internet access by the year 2006.

The Cape IT Initiative (CITI) is contributing to IT education for children with - among other things - an e-literacy programme at the UUNet Bandwidth Barn in Cape Town.

Johannesburg`s Aurora private school has been using ICT to reinforce education delivery for some time, as well as offering certified IT training. Deputy school principal Judy Nicholas says: "The children are making full use of this tool.

Read the above article and then answer the questions that follow. All your responses must be typed in a MS Word document. You must copy-paste each question from the test, then place it in a new document and then type in your answer below the question.

Document requirements:

1. Font: Size 12 Calibri Colour: Black.

1.1   Define the concept Digital Divide.   **(2)**

1.2   Identify two (2) ICT intervention programmes mentioned in the article.   **(4)**

1.3   Identify the four factors from the article that contribute to the widening of   **(4)**
the technology gap.

Then briefly explain how each of these factors can be used to support
teaching and learning.

1.4   Explain how each of these factors can support the effective use and   **(4)**
integration of ICT in education?

1.5   1.1   Briefly explain the following terminologies.   **(8)**

1.5.1   Pedagogy   **(2)**

1.5.2   Blended Learning   **(2)**

1.5.3   Open Source Software   **(2)**

1.5.4   Wearable technologies   **(2)**

1.6   Explain the role the Microsoft Educator Community can play to support
Teacher Professional Development.   **(8)**

Save your file as Your_surname.docx (eg. Modiba.docx).

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QUESTION 2

Scenario: At some stage in your career as an educator, you will have to create a document to organise and order your class and their marks for a variety of assessment items or you may have to help another teacher in your role as ICT Support specialist.

Surname	Name	Gender	age	Test1/100	Test2/100	Test3/100	Ass1/50	Ass2/50
Diseko	Bruce	M	15	75	72	52	43	23
Fourie	Hano	M	15	63	61	77	35	45
Khumalo	Gideon	M	14	82	85	35	26	46
Best	Geoff	M	14	57	42	74	45	43
Mandela	Simphiwe	M	15	62	67	71	34	36
Maseko	Sbo	F	15	47	69	53	25	37
Mbeki	Vincent	F	13	35	70	57	36	38
Shangu	Thabile	F	16	55	62	75	39	34
Sithole	David	M	14	62	74	65	41	22
Sithole	Lindiwe	F	15	71	83	76	34	50

2.1 Copy and paste the following data from the table below into a blank MSExcel worksheet. (If you cannot do this, you will have to re-type all of the data.) **(2)**

2.2 Insert a new column (use column A) and number the existing students (1-10). **(2)**

2.3 Make all the headings of the columns *italics* and then make them **bold.** Now center the headings in the columns. **(3)**

2.4 Format the column headings so that they are almost vertical at 85°. Now you can re-size the columns to save a bit of space and fit all columns onto one page. Format the column widths so that all of the *columns with marks* are the same width. **(4)**

2.5 Calculate the average mark out of 100 for the three tests for each student using a formula (first insert a new column after test 3). Insert a new column after assignment 2, add the title "*Ass ave*" in the new column and calculate the *assignment mark* for each learner out of 100. **(6)**

2.6 Calculate a final mark out of 100 in a new column using the test average and the assignment average. **(2)**

2.7 Place borders around all the cells containing data. **(2)**

2.8 Calculate (in one row at the bottom of the sheet) the *average age of the learners **and** the class averages for each test.* **(4)**

2.9 Use the max and min formulas to calculate the highest and lowest final mark. **(2)**

2.10 Colour the cells of the test average column light pink. **(2)**

2.11 Make the marks in the final mark column red (not the cells). **(2)**

2.12 Now sort the students alphabetically according to surname, and where they have the same surname, make sure the sort is also done according to first name (A-Z). Make sure that you can sort all data for each learner and not only the names (but do not sort column A with the numbering). Re-name the tab for the worksheet to "**alphabetical**". **(4)**

2.13 Copy the whole spreadsheet onto a new sheet (new tab). Re-name the new tab "**Sort**". **(3)**

On the sheet named "Sort", do the following:

2.14 In "Sort", use Data-Sort to *separate the boys from the girls*. The boys and the girls must then be sorted from *lowest to highest average* (Boys on top please). **(4)**

2.15 Insert two blank rows between the boys' marks and the girls' marks. **(1)**

2.16 Sometimes it is easier to see relationships and trends better using visual tools like charts… Use the chart wizard to make a line graph/chart to compare all test marks (test 1, 2, and 3) for the **boys only**. Format your graph to include title and labels for axes. Save the graph as a new sheet called "Tests". **(6)**

2.17 **Save the file as Your_surname.xls (eg. Tshabalala.xls).** **(1)**

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QUESTION 3

You have been asked by your school's Mathematics Head of Department (HoD) to design a Power point interactive presentation (solution) to help support learners to master the Mathematics Time Tables.

Plan a simple Power point presentation in which you develop a mathematics Time Table solution for learners to access and use.

Your solution must have the following:

3.1 3 x; 5 x and 9 x Time Tables e.g.: (1 x 3 = 3…..2 x 3 = 6……end at 12 x 3 = 36) **(6)**

3.2 Each timetable must be on a new slide. **(3)**

3.3 Insert easy to use hyperlinks to help the learner navigate between the timetables. **(4)**

3.4 Design a user friendly and captivating Switchboard for your learners to assist with navigating the solution. **(6)**

3.5 **Save the file as Your_surname.pptx (eg. Meyer.pptx).** **(1)**

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TOTAL: 100