



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 10

INFORMATION TECHNOLOGY P1 (PRACTICAL)

EXEMPLAR PAPER

MARKS: 120

TIME: 3 hours

This question paper consists of 9 pages.

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INSTRUCTIONS AND INFORMATION

1. This is a three-hour examination. Because of the nature of this examination, it is important to note that you will not be permitted to leave the examination room before the end of the examination session.
2. Answer ALL the questions.
3. If a disk has been issued, write your name and examination number on the label.
4. Save your work at regular intervals as a precaution against power failures.
5. Read the questions carefully. Do NOT answer more than is instructed in the question.
6. At the end of the examination, you will be required to hand in only the disk given to you by the invigilator or you must make sure that all the files have been saved on the network, as explained to you by the invigilator/teacher. Ensure that ALL files can be read. Note that NO printing is required.
7. During the examination, you may make use of HELP functions of the software. You may NOT refer to any other resource material.
8. This question paper consists of THREE questions.

You have been hired by *Walco Int* as a part-time programmer to write computer programs to perform certain tasks and to manage and capture the data of the company using application software. The company manufactures plastic bags for several large supermarkets. *Walco Int* employs 150 people.

QUESTION 1: DATABASE

- 1.1 Create a table *EmpTable* in a database called *EmployeesDB* to store the following information about the employees of the company:

EmpNumber
Name
Surname
Gender
AppointmentDate
Salary

The following must be taken into consideration when creating the *EmpTable* table:

- 1.1.1 ONE of the fields must be identified as the primary key.
- 1.1.2 The data fields must be of the correct type and size.
- 1.1.3 As most of the employees are female, the default value must be set as 'F'.
- 1.1.4 Data validation must be applied and user-friendly messages must be displayed as part of the validations. Consider the following:
 - (a) 'M' and 'F' will be used to indicate the gender of an employee
 - (b) ALL employees get a salary of R2 000,00 and above per month

- 1.1.5 The format of the appointment date must be supplied to the user. The appointment date must be entered in the format: yyyy/mm/dd where yyyy represents the year of appointment, mm represents the month of appointment and dd represents the day of appointment, for example 2003/06/05. An input mask must be used for the appointment date.

Example of the view of the table:

EmpTable : Table						
EmpNumber	Name	Surname	Gender	AppointmentDal	Salary	
			F	/ /	R 0.00	

(15)

- 1.2 Create the form below to capture the information of the employees.

The following must be taken into consideration when creating the form:

- 1.2.1 The form must be user-friendly. The user must know the format of the input.

- 1.2.2 Using the HELP File set up, an input mask for the EmpNumber field. The format of the employee number is E123-890, that is capital letter E, followed by THREE digits, a dash and three digits.
- 1.2.3 Your name must appear in the footer of the form as indicated in the example.
- 1.2.4 The layout of the fields must be neatly spaced with readable labels as indicated in the example.
- 1.2.5 The form must be saved as EmpForm. (10)
- 1.3 Capture the following data for the employees of the company: Give the data in the form of a text file/table/spreadsheet document to import/copy.

EmpTable : Table						
EmpNumber	Name	Surname	Gender	AppointmentDa	Salary	
E123-567	Simon	Moeketsi	M	2005/05/01	R 2,000.00	
E124-456	Cindy	Crawford	F	2005/05/01	R 2,500.00	
E125-345	Eric	Ntumba	M	2006/01/01	R 2,500.00	
E126-878	Susan	Hammond	F	2005/11/01	R 2,800.00	
E128-343	Jennifer	Plaatjes	F	2005/01/01	R 3,000.00	
E129-232	Maria	Xaba	F	2005/05/01	R 2,500.00	
E130-191	Hawa	Naidoo	F	2005/11/01	R 2,300.00	
E132-563	Frank	Johnson	M	2005/02/01	R 5,000.00	
* E -			F		R 0.00	

- 1.4 Create a query to display the name and surname of ALL the female employees appointed in 2005 and who earn less than R2 800,00 per month. The information must be sorted according to the salary. Save this query as **Sal**.

(2)

(8)
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QUESTION 2: PROGRAMMING

Walco Int has several sales representatives (reps) selling their products. A sales rep earns commission, based on his/her total sales for that month and his/her status code. His/Her status code can also be upgraded, based on his/her sales for the month.

Write a program to:

- * Input the name of the rep, his/her total sales for the month and a status code for the rep. The status code can be A, B, C or D.
- * Determine the commission the rep will receive and the new status code of the rep if applicable.

The commission is calculated as follows:

Sales	Status Code	Commission
<R500,00	All codes	2%
R500,00 to R5 000,00	All codes	6%
>R5 000,00	A, B, C, D	8%

Sales reps are legible for upgrading only if their sales exceed R5 000,00. Status codes B, C or D will be upgraded one level up as follows:

Status Code	Updated Status Code
A	A (no upgrading)
B	A
C	B
D	C

- * Determine a password for the rep. The password is the sum of 10 randomly generated integer numbers in the range 1 to 20.
- * Display the rep's name, sales, commission, password, status code, message 'Upgraded' if one is applicable. The message 'Upgraded' is only displayed when upgrading of the status code has taken place. All amounts should be formatted to TWO decimal places.

EXAMPLE 1:

Sample Input

Enter name : Peter
 Enter sales : 700,00
 Enter status code : C

Sample Output

NAME	SALES	COMMISSION	PASSWORD	STATUS CODE	MESSAGE
Peter	R700,00	R42,00	234	C	

NOTE: The password will be different every time you run the program.

EXAMPLE 2:

Sample Input

Enter name : John
 Enter sales : 5 500,00
 Enter status code : B

Sample Output

NAME	SALES	COMMISSION	PASSWORD	STATUS CODE	MESSAGE
John	R5 500,00	R440,00	123	A	Upgraded

NOTE: The password will be different every time you run the program.

EXAMPLE 3:

Sample Input

Enter name : Sipho
 Enter sales : 6 000,00
 Enter status code : A

Sample Output

NAME	SALES	COMMISSION	PASSWORD	STATUS CODE	MESSAGE
Sipho	R6 000,00	R600,00	119	A	

NOTE: The password will be different every time you run the program.

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QUESTION 3: PROGRAMMING**PROBLEM STATEMENT**

There is a canteen on the premises of Walco Int where a number of waiters are employed. Waiters can work during weekdays or on weekends, but not during both periods in a week. A waiter can also work overtime, if he/she desires. A waiter is paid a rate of R5,00 per hour during weekdays and R8,00 an hour during weekends. Any overtime worked, is paid at double the rate.

You are required to write a program that will read in the name of a waiter, his/her hours worked, the type of period (W for Weekdays and E for Weekends) and the number of overtime hours worked.

Your program must:

- 3.1 Calculate the waiter's income
- 3.2 Determine a grading for each waiter. Grading is determined by awarding one star (*) for every R500,00 earned. For example, an income of R1 750 will be awarded a grade of 3 stars (***)
- 3.3 Determine the name of the waiter with the highest income
- 3.4 Calculate the total amount paid by the company for employees' income

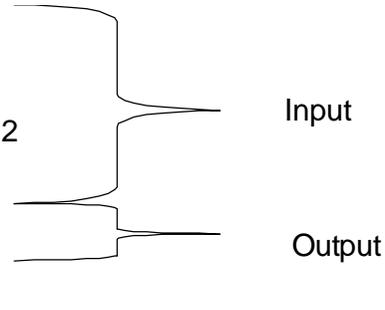
Test your program with the following data as input:

Name	Week/Weekend	Hours worked	Overtime	Tips
Greg	W	200	18	223,55
Sydney	W	165	16	156,70
Simon	E	56	12	78,80
Maureen	E	88	17	123,50

Part of output in Java:

```

Waiter's name: Simon
(W)EEK or Week(E)nd: E
Waiter's number of hours worked: 56
Waiter's number of overtime hours: 12
Waiter's tips received: R78,80
Waiter: Simon earned R718,80
Grading: *
Enter another waiter's details? (Y/N)
Y
  
```



Waiter's name: Maureen
(Week or Week(E)nd: E
Waiter's number of hours worked: 88
Waiter's number of overtime hours: 17
Waiter's tips received: R123,50
Waiter: Maureen earned R1 099,50
Grading: **
Enter another waiter's details? (Y/N)
N
Waiter with the highest income: Greg with an amount of R1 403,55
Total income of all waiters: R4 363,55

Output in Delphi:

Walco Int Waiters

Name

Weekend (E) or Weekdays (W)

Hours worked (normal hours)

Hours worked (overtime)

Amount in tips received

Greg R 1,403.55
Grading: * *
Sydney R 1,141.70
Grading: * *
Simon R 718.80
Grading: *
Maureen R 1,099.50
Grading: * *
Total amount: R R 4,363.55
Most paid waiter: Greg R 1,403.55

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TOTAL: 120