



شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأفلام قد أعدت دون أية تغيرات



## يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of  
15-25- c and relative humidity 20-40%



# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم

بالرسالة صفحات  
لم ترد بالأصل

بعض الوثائق  
الأصلية تالفه

جامعة عين شمس - كلية البنات  
الدراسات العليا

تاريخ موافقة مجلس الكلية على تشكيل لجنة

فحص  
مناقشة  
١١ / ٢ / ٢٠٠٢

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بموافقة مجلس الكلية على التوصية بمنح الطالب

درجة ~~ماجستير~~ / ~~دكتوراه~~  
١٥ / ٦ / ٢٠٠٢

أمين الكلية  
١٥ / ٦ / ٢٠٠٢  
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719 2



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## THE STATUS OF SOME TRACE ELEMENTS IN SOME EGYPTIAN FOOD STUFFS

### Thesis

Submitted to Women's College, Ain Shams University  
For M.Sc. Degree in Science  
Biochemistry and Nutrition

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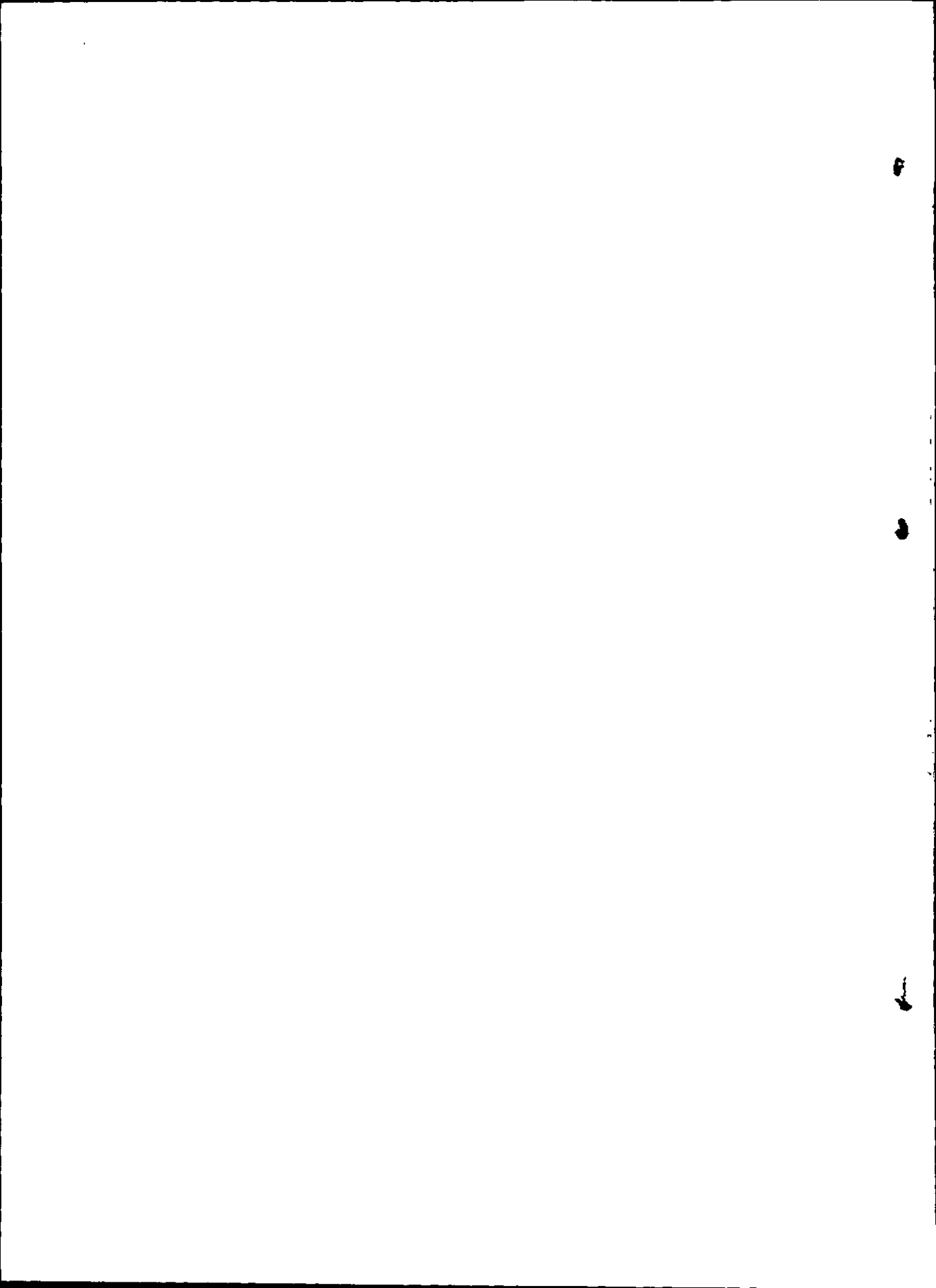
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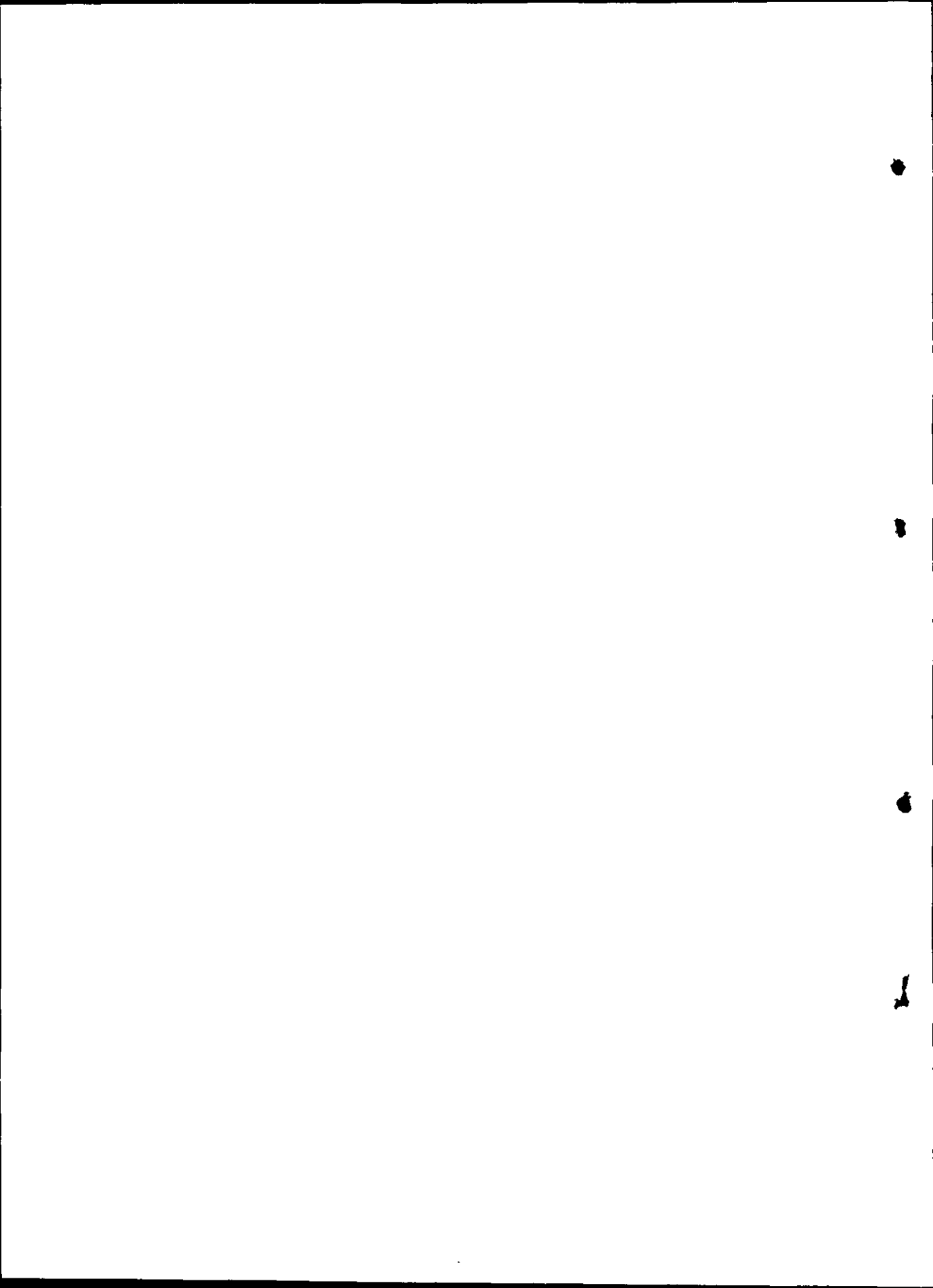
سبحانك لا علم لنا

إلا ما علمتنا

إنك أنت العليم الحكيم

صدق الله العظيم

(سورة البقرة آية "٣٢")



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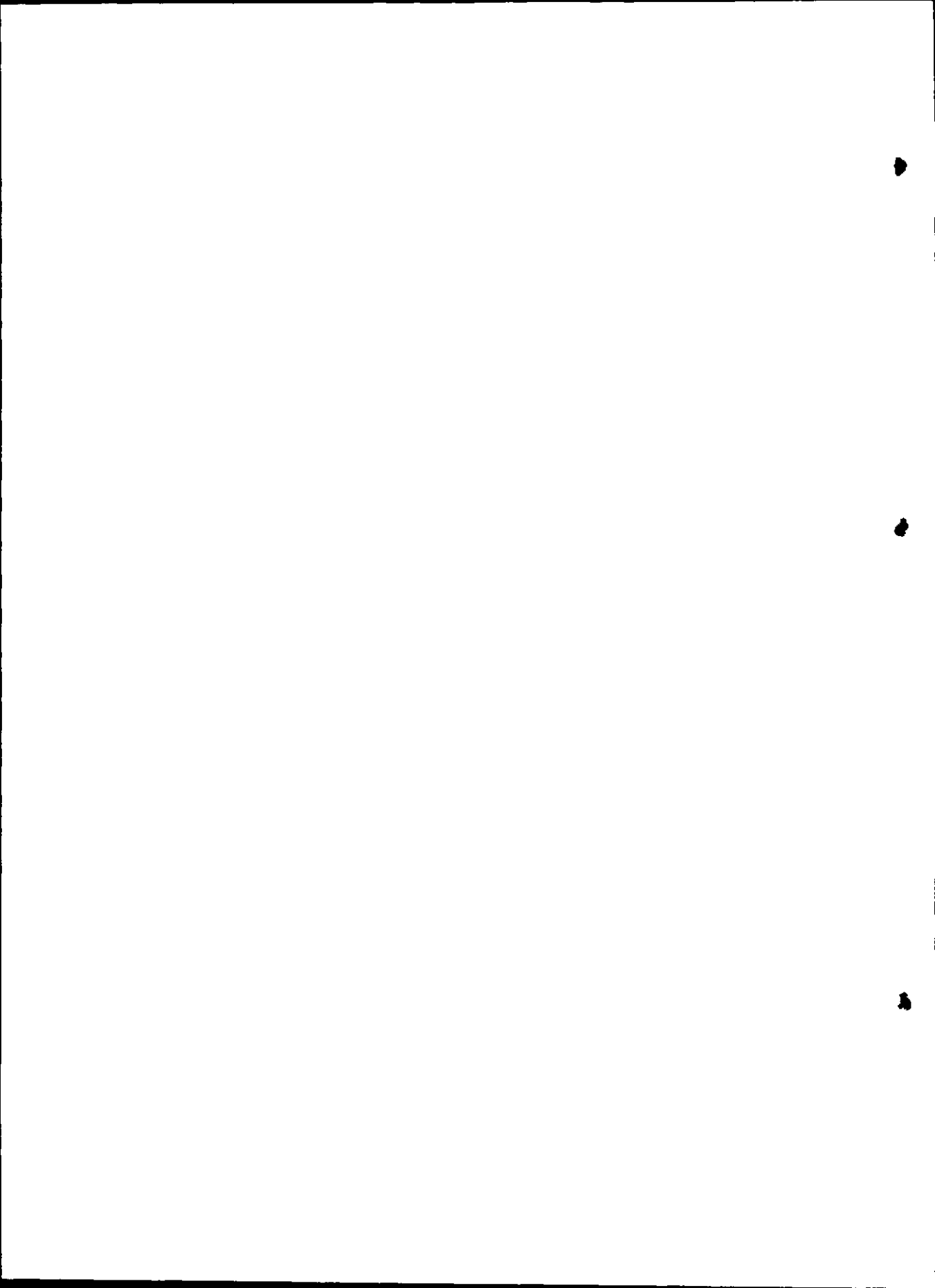
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# ABSTRACT

In the present study the concentrations of some trace elements iron (Fe), zinc (Zn), copper (Cu), selenium (Se) and chromium (Cr) and also some pollutant elements such as lead (Pb) and cadmium (Cd) in some Egyptian food groups (vegetables, cereals, legumes and milk) were determined by using atomic absorption spectrometry (AAS) either with burner type in case of Fe, Zn and Cu detection or with graphite furnace atomic absorption spectrometry (GFAAS) in the case of determination of Se, Cr, Pb and Cd. The results were as follows:

1. Vegetables analysis showed that, in general leafy vegetables contain the highest levels of Fe, Zn, Se and Cr, also okra as seed-pod vegetables contain high levels of Zn, Se and Cr. Root and tuber vegetables such as potato and yellow carrots reported the highest value of Pb and Cd as well as garden peas from seed-pod vegetables.
2. Cereals and legumes analysis showed that wheat as cereals showed the highest levels of Fe, Zn, Se and Cr, while Fe, Zn, Cu, Se and Cr were relatively higher in legumes than in cereals. Pb and Cd levels in cereals and legumes varied and reflected the environmental pollution, the values still within the permissible levels.
3. Milk analysis showed that the different types of milk either fresh or dried were considered a poor source for tested trace elements, whereas concentrations of Pb and Cd were nearest the minimum range of the permissible levels.



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