

Earth Sciences and Petroleum Department 2023-2024

List of Topics Required for Admission Exam - Postgraduate Level

M.Sc. Students

Geochemistry

- 1. Geochemistry of igneous rocks.** Distribution of elements- Bowen reaction series- Basaltic and granitic magma- Trace elements, sites and classification of trace elements.
- 2. Geochemistry of sedimentary rocks.** Oxidation and reduction- Chemical controls on soil formation, diagenesis, metamorphism.

Structure Geology

- 1- Structural geology: Contractional Regimes.
- 2- Earth structure: Fold-Thrust Belt.

Petroleum Geology

- 1-Petroleum System.

Stratigraphy and Paleontology

- 1-Principles of Stratigraphy.
- 2-Stratigraphic relationships.
- 3-Formaminifera.
- 4-K-T boundary in Iraq.

Geophysics

- 1-Seismic (refraction and reflection), Potential methods, electrical and GPR methods.

References

- *An introduction to applied and environmental geophysics, 1998. Reynolds, J. M.).*
- *(Introduction to geophysical prospecting, 1988. Durbin, M. B.*
- *Geochemistry, White 2003, 2005*
- *Essentials of Geochemistry, Walther 2005*
- *Tucker, M. E., 2001, Sedimentary Petrology: An Introduction to the Origin of Sedimentary Rocks. Blackwell Publishing Company, 260 p.*
- *2-Jassim, S. Z., & Goff, J. C., 2006. Geology of Iraq. Brno, Czech Republic: Dolin, Prague and Moravian Museum 341p.*
- *3-Nichola, G.J, 1999.Sedimentology and stratigraphy.*
- *Fossen, H. (2016). Structural geology. Cambridge university press.*
- *Van Der Pluijm, B.A. and Marshak, S. (2004) Earth Structure: An Introduction to Structural Geology and Tectonics. 2nd Edition, WW Norton, New York.*
- *Regional Geology of Iraq, Buday ,1980*
- *Jassim and Goff,2006*
- *Microfossils,Brasier,1989*
- *Introduction to Marine Micropaleontology ,Haq and Borsma,1978*
- *Microfossils , Armstrong and Brasier,2005*

