



المستوى الثالث جيولوجيا

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TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY

EXAMINATION FOR THIRD LEVEL GEOLOGY (Special)

COURSE TITLE:	Structural Geology II	COURSE CODE: GE3214
DATE: 4/6/2017	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

A) Complete the following sentences: (15 marks)

- 1- Noncoaxial shearing parallel to the zone, combined with coaxial shortening perpendicular to the zone, a situation called
- 2- are relatively large, single crystals in a fine-grained matrix formed by metamorphic growth of crystals.
- 3- defined by microlithons with no microfolds and the domainal structure can be seen with the unaided eye
- 4- A is a relatively small strike slip fault that runs across the strike of a contractional or extensional belt and accommodates differential displacement between two adjacent segments of the belt.
- 5-are thin zones of very high shear strain within the main shear zone.

B) Put (✓) in front of the correct phrase and (X) in front of the wrong phrase with error correction. (15 marks)

- 1- Foliations are tabular to sheetlike, planar or curvilinear zones in which rocks are more highly strained than rocks adjacent to the zone.....()
- 2- Tectonites are ductilely deformed rocks formed by the accumulation of large shear strain, in ductile fault zones.....()
- 3- Crenulation lineation is defined by the closely spaced fold hinges of the microfolds in a crenulated rock.....()
- 4- Cleavage is a secondary fabric element, formed under low-temperature conditions, that imparts to the rock a tendency to split along planes.....()
- 5- Contractional or restraining bends are local zones of extension where material is pulled apart by the dominant strike-slip fault movement.()

C) Write short notes about the followings (with drawing if present): (25 marks)

- 1- Types of Joints associated with folds.
- 2- Classification of mantled porphyroclasts.
- 3- Characteristics of passive en échelon folds associated with strike-slip faults.

D) Choose the correct answer: (15 marks)

- 1- A common example of a semi-brittle shear zone is a zone of.....
(i) Mica fish (ii) Shear bands (iii) En echelon veins
- 2- form by plowing of surface irregularities due to friction.
(i) Intersection lineation (ii) Groove lineations (iii) Fiber lineations.
- 3-..... formed by stretching, necking and eventually segmentation of a layer or planar body surrounded by a less competent matrix. (i) Boudinage (ii) Mullions (iii) S-C fabrics
- 4-.....display regular, repeated, fold-like forms, ranging in wavelength from centimeters to meters. (i) Shear bands (ii) Mullions (iii) Crenulation lineation
- 5-is subsidiary Riedel fractures develop at an acute angle, typically 10-20° clockwise to a dextral main fault, anticlockwise to a sinistral strike-slip fault.
(i) R shears (ii) R' shears (iii) P shears

E) Compare between the following (with drawing if present): (30 marks).

- 1- Positive and negative flower structures.
- 2- Brittle and ductile shear zones.
- 3- Mineral lineation and intersection lineation.

EXAMINERS	Prof. Mohamed Abd El-Wahed	Prof. Mohamed Atef Noweir
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