

National Testing Agency

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Metamorphic Petrology and Thermodynamics

Group Number :	1
Group Id :	603489195
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Group Marks :	100
Is this Group for Examiner? :	No

Metamorphic Petrology and Thermodynamics 1

Section Id :	603489281
Section Number :	1
Section type :	Online

Mandatory or Optional :	Mandatory
Number of Questions :	20
Number of Questions to be attempted :	20
Section Marks :	20
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	603489517
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 60348914188 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

In metasomatic processes, the principal chemically active fluids or volatiles constituents are:

1. H₂O and CO₂
2. H₂S
3. O₂
4. Only CO₂

Options :

60348953619. 1

60348953620. 2

60348953621. 3

60348953622. 4

Question Number : 2 Question Id : 60348914189 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

On melting, the paleosome changes its composition which is observed as restite (unmelted component) and is designated as:

1. Melanosome
2. Neosome
3. Leucosome
4. Paleosome

Options :

60348953623. 1

60348953624. 2

60348953625. 3

60348953626. 4

Question Number : 3 Question Id : 60348914190 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

A line joining the points where rocks have the same grade of metamorphism is called:

1. Isogyre
2. Isograde
3. Isopoch
4. Isochore

Options :

60348953627. 1

60348953628. 2

60348953629. 3

60348953630. 4

Question Number : 4 Question Id : 60348914191 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

During the load metamorphism, which of the following occur?

1. Depth of metamorphism is greater as compared to other types
2. Heat due to geothermal gradient is also active
3. Chemical agencies catalyses the process
4. All of these are correct

Options :

60348953631. 1

60348953632. 2

60348953633. 3

60348953634. 4

Question Number : 5 Question Id : 60348914192 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The general temperature of metamorphism is between:

1. 400°C to 1100°C
2. 500°C to 1200°C
3. 100°C to 700°C
4. 200°C to 800°C

Options :

60348953635. 1

60348953636. 2

60348953637. 3

60348953638. 4

Question Number : 6 Question Id : 60348914193 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

During metamorphism, the mineral graphite:

1. is changed into pure carbon
2. changes to some other mineral
3. does not take part in chemical changes or reaction
4. is fully destroyed during the metamorphism

Options :

60348953639. 1

60348953640. 2

60348953641. 3

60348953642. 4

Question Number : 7 Question Id : 60348914194 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

During the metamorphism, the dominant factor(s) is/are:

1. Temperature
2. Pressure
3. Chemically active fluid
4. Both temperature and pressure are equally responsible

Options :

60348953643. 1

60348953644. 2

60348953645. 3

60348953646. 4

Question Number : 8 Question Id : 60348914195 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Pyrometamorphism generally includes:

1. High pressure changes
2. High temperature changes
3. High pressure and temperature changes
4. Low pressure and temperature changes

Options :

60348953647. 1

60348953648. 2

60348953649. 3

60348953650. 4

Question Number : 9 Question Id : 60348914196 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Staurolite forms by the reaction of:

1. Chlorite and K-feldspar
2. Chlorite and Sillimanite
3. Chloritoid and Sillimanite
4. Chloritoid and Kyanite

Options :

60348953651. 1

60348953652. 2

60348953653. 3

60348953654. 4

Question Number : 10 Question Id : 60348914197 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

If a Gneiss is formed from igneous protolith due to metamorphism, it is called

1. Orthogneiss
2. Paragneiss
3. Subgneiss
4. Both Orthogneiss and Paragneiss

Options :

60348953655. 1

60348953656. 2

60348953657. 3

60348953658. 4

Question Number : 11 Question Id : 60348914198 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Khondalite is a typical rock of :

1. Eclogite facies
2. Granulite facies
3. Green schist facies
4. Blue schist facies

Options :

60348953659. 1

60348953660. 2

60348953661. 3

60348953662. 4

Question Number : 12 Question Id : 60348914199 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Dolomite having only aluminous impurities, during thermal metamorphism will give:

1. Spinal + Calcite
2. Only Diopside
3. Calcite + Forsterite
4. Calcite + Periclase

Options :

60348953663. 1

60348953664. 2

60348953665. 3

60348953666. 4

Question Number : 13 Question Id : 60348914200 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

Mylonites are products of which type of metamorphism:

1. Contact
2. Cataclastic
3. Optalic
4. Static

Options :

60348953667. 1

60348953668. 2

60348953669. 3

60348953670. 4

Question Number : 14 Question Id : 60348914201 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 1 Wrong Marks : 0

The phase rules is given by which one of the following formulae?

1. $P + F = C + 2$
2. $P - F = C + 2$
3. $F = P + C + 2$
4. $P - F = C - 2$

Options :

60348953671. 1

60348953672. 2

60348953673. 3

60348953674. 4

**Question Number : 15 Question Id : 60348914202 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 1 Wrong Marks : 0

Migmatite is formed due to:

1. Anatexis
2. Metasomatism
3. Pneumatolysis
4. All of the above

Options :

60348953675. 1

60348953676. 2

60348953677. 3

60348953678. 4

**Question Number : 16 Question Id : 60348914203 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 1 Wrong Marks : 0

Presence of wollastonite in a rock indicates that rock has been heated to about:

1. 1000°C
2. 800°C
3. 400°C
4. 200°C

Options :

60348953679. 1

60348953680. 2

60348953681. 3

60348953682. 4

**Question Number : 17 Question Id : 60348914204 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 1 Wrong Marks : 0

Corderite is a characteristic mineral of:

1. Pelitic rocks which have undergone regional metamorphism
2. Pelitic rocks which have undergone thermal metamorphism
3. Basic rocks which have undergone regional metamorphism
4. Basic rocks which have undergone thermal metamorphism

Options :

60348953683. 1

60348953684. 2

60348953685. 3

60348953686. 4

**Question Number : 18 Question Id : 60348914205 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a common mineral in a calc-silicate rock of amphibolite facies and a basic rock of granulite facies?

1. Tremolite
2. Diopside
3. Hypersthene
4. Actinolite

Options :

60348953687. 1

60348953688. 2

60348953689. 3

60348953690. 4

**Question Number : 19 Question Id : 60348914206 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 1 Wrong Marks : 0

Which of the following mineral always indicates that the rocks have attained granulite facies?

1. Hypersthene alone
2. Diopside + calcite
3. Tremolit + Diopsidee
4. Tremolite + Hypersthene

Options :

60348953691. 1

60348953692. 2

60348953693. 3

60348953694. 4

**Question Number : 20 Question Id : 60348914207 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 1 Wrong Marks : 0

Which one of the following is the best idioblastic mineral?

1. Quartz
2. Epidote
3. Muscovite
4. Garnet

Options :

60348953695. 1

60348953696. 2

60348953697. 3

60348953698. 4

Metamorphic Petrology and Thermodynamics 2

Section Id :	603489282
Section Number :	2
Section type :	Offline
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	30
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	603489518
Question Shuffling Allowed :	No

Question Number : 21 Question Id : 60348914208 Question Type : SUBJECTIVE

Correct Marks : 3

Discuss metasomatism in short

Question Number : 22 Question Id : 60348914209 Question Type : SUBJECTIVE

Correct Marks : 3

Write a short note on mineralogy and facies of migmatites

Question Number : 23 Question Id : 60348914210 Question Type : SUBJECTIVE

Correct Marks : 3

Write a short note on discontinuous reaction.

Question Number : 24 Question Id : 60348914211 Question Type : SUBJECTIVE

Correct Marks : 3

What is serpentization?

Question Number : 25 Question Id : 60348914212 Question Type : SUBJECTIVE

Correct Marks : 3

Write a note on amphibolite.

Question Number : 26 Question Id : 60348914213 Question Type : SUBJECTIVE

Correct Marks : 3

What is hornfels?

Question Number : 27 Question Id : 60348914214 Question Type : SUBJECTIVE

Correct Marks : 3

Discuss in short about the gneissose texture.

Question Number : 28 Question Id : 60348914215 Question Type : SUBJECTIVE

Correct Marks : 3

Draw the ACF diagram of staurolite zone of amphibolite facies and also mentioned the basic assemblages.

Question Number : 29 Question Id : 60348914216 Question Type : SUBJECTIVE

Correct Marks : 3

How you will explain the lower temperature limit during green schist facies?

Question Number : 30 Question Id : 60348914217 Question Type : SUBJECTIVE

Correct Marks : 3

What are the different mineral paragenesis on the basis of ACF diagram of eclogite facies.

Metamorphic Petrology and Thermodynamics 3

Section Id :	603489283
Section Number :	3
Section type :	Offline
Mandatory or Optional :	Mandatory
Number of Questions :	7
Number of Questions to be attempted :	5
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	603489519
Question Shuffling Allowed :	No

Question Number : 31 Question Id : 60348914218 Question Type : SUBJECTIVE

Correct Marks : 10

What are the important characteristic minerals during green schist facies?

Question Number : 32 Question Id : 60348914219 Question Type : SUBJECTIVE

Correct Marks : 10

Discuss in details with suitable diagram about the types of migmatites.

Question Number : 33 Question Id : 60348914220 Question Type : SUBJECTIVE

Correct Marks : 10

Give a detailed account of blue schist facies.

Question Number : 34 Question Id : 60348914221 Question Type : SUBJECTIVE

Correct Marks : 10

Describe with green schist facies under the following heads:

1. Mineral paragenesis with the suitable diagram
2. Important metamorphic reactions.
3. P-T condition of metamorphism

Question Number : 35 Question Id : 60348914222 Question Type : SUBJECTIVE

Correct Marks : 10

Describe in details about metasomatism.

Question Number : 36 Question Id : 60348914223 Question Type : SUBJECTIVE

Correct Marks : 10

Described with suitable diagram the regional metamorphism of pelitic rocks.

Question Number : 37 Question Id : 60348914224 Question Type : SUBJECTIVE

Correct Marks : 10

Give a detail accounts of AKF diagram.