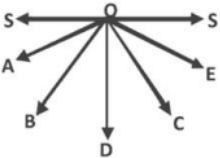


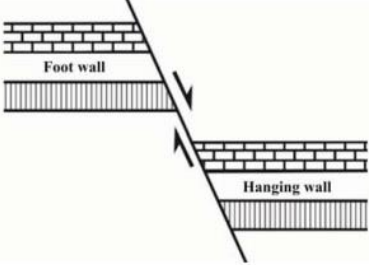
KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD

Subject : GEOLOGY

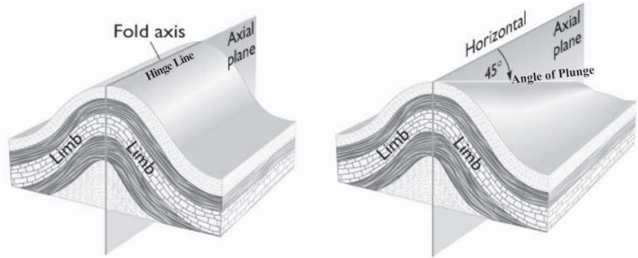
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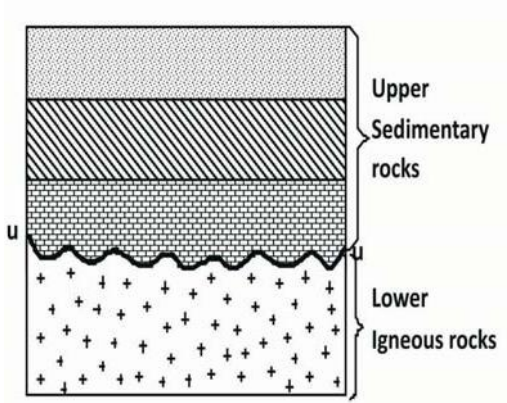
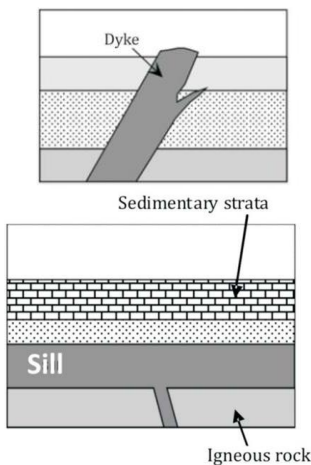
Scheme of Evaluation March - 2023

Question no.	Answer	Marks
1.	a. Hinge	1
2.	b. Oblique	1
3.	a. calyx	1
4.	c. umbo	1
5.	a. 250	1
6.	Age	1
7.	Growth line	1
8.	Petrology	1
9.	Paleozoic	1
10.	Krishna	1
11.	Made up of both crystalline as well as glassy matter in variable proportion.	1
12.	Well-developed edges of a crystal	1
13.	Acidic lava contains more silica than the basic lava.	1
14.	a solid material that has settled down in a state of suspension in a Sedimentary rock: liquid medium	1
15.	Sedimentary rocks that have been formed through precipitation or evaporation of natural solutions.	1
16.	e. Trilobite	1
17.	d. limestone	1
18.	b. Igneous rock	1
19.	c. metamorphic rock	1
20.	a. era	1
21.	Change in volume, Change in shape	2
22.	Magma is the hot molten rock material.	2
23.	Apparent dip: Apparent dip is the direction other than true dip Or 	2
24.	When sedimentary beds are formed in continuous sequence without any break or interruption are set to be conformable.	2

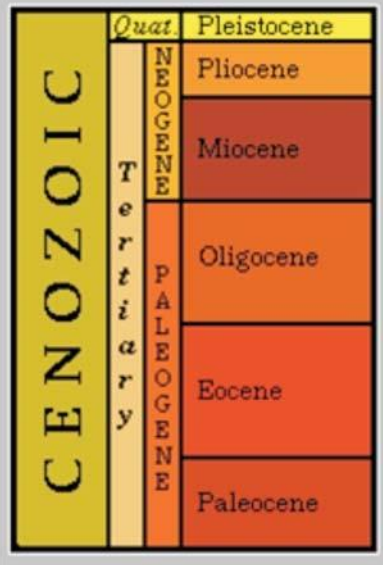
25.	The two bends situated on the either side of the axis of a fold is called limbs. An individual fold consists of two limbs.	2
26.	Frequently the inner parts of the whorls coalesce, and form an axial pillar extending from to the apex called columella.	2
27.	The aperture varies considerably in shape, it may be circular, oval, elongate, oblong, etc. is peristome	2
28.	The rocks formed under eruptive condition on the surface of the earth that are formed by rapid cooling with fine grained or glassy nature. Ex: Rhyolite, Dacite, Trachyte, Andesite, Phonolite, Basalt, Pumice etc.	3
29.	When an individual grain cannot be identified by eyes, such grains are termed as aphanetic texture. They are divided as a) Microcrystalline, the individual crystals can be observed only under microscope. b) Cryptocrystalline, crystals cannot be observed under microscope because of its glassy nature. c) Glassy, no traces of crystals	3
30.	Rocks consist of the finest particles of rock, whose average grain size is less than 0.01 mm, consisting of dust and clay. e.g., Shale.	3
31.	1) In measuring the slope of an area 2) To locate ourselves in the field with the help of a toposheet 3) In geological mapping 4) To measure the attitude of beds	3
32.	The uniformitarianism concept was given by James Hutton. All the earth processes are responsible to (erosion, deposition and gradual uplift of crust) bring the constant changes on the surface of the earth. Hence, Hutton's view was "the present is the key to the past" or present shall unlock the past history of the earth. When the present is properly understood, the past history of the earth	3
33.	It is a fault along which the hanging wall is moved relatively downwards with respect to the foot wall. 	3

34.	The entire body is preserved as such. Such fossils are found only in extreme cold and frozen conditions. Example woolly mammoth fossils in polar regions.	3
35	<p>Igneous rocks are classified into mainly three types- plutonic, hypabyssal and volcanic.</p> <p>Plutonic: These rocks are formed at greater depth and are naturally coarse grained. They are consolidated under deep seated conditions by slow cooling of magma. Ex;- granite, granodiorite, syenite, diorite, gabbro, dunite etc.</p> <p>Hypabyassal or intermediate: These are formed at intermediate depth with moderate cooling. These are medium grained. Ex: Dolerite, Microgranite, Pegmatite etc.</p> <p>Volcanic: The rocks formed under eruptive condition on the surface of the earth that are formed by rapid cooling with fine grained or glassy nature. Ex: Rhyolite, Dacite, Trachyte, Andesite, Phonolite, Basalt, Pumice etc.</p>	5
36.	<p>Rudaceous: The rudaceous rocks consist chiefly of gravel, pebbles, cobbles or boulders having more than 2 mm size. Loose materials of this class are gravels, pebbles, shingle, boulder beds, scree, talus etc. e.g., conglomerate and breccia.</p> <p>Arenaceous: These rocks consist chiefly of sand grade materials having 0.1 to 2 mm size. Loose materials are sands; when consolidated they form sandstones, grits, arkose, greywacke.</p>	5
37.	<p>The Epizone</p> <p>It is the near surface zone and is characterized by low temperature (generally less than 3000C) and strong shear stress. Rocks in this zone are metamorphosed, chiefly under the influence of dynamic metamorphism. The common rocks resulting in this zone are slates and chlorite schist.</p> <p>The Mesozone</p> <p>It is the middle zone in which the temperature factor is moderate (3000-5500C) and the pressure factor is by shear as well as hydrostatic. Dynamothermal metamorphism is the typical process</p>	5

	<p>of this zone and high-grade schists like biotite-garnet schist are chief products.</p> <p>The Hypozone</p> <p>It is the high temperature (5500 C-12000 C) with great depth, where hydrostatic stress is quite dominant. Plutonic metamorphism is the representative type of high grade rocks (granulite, eclogite).</p>	
38.	<p>Anticline: It is the fold which is convex upwards which opens downwards and the limbs dip away from the axial plane. In anticline, the older rocks occur at the centre of curvature of fold. It may be symmetrical or asymmetrical.</p> <p>Syncline: It is the fold which is concave upwards which opens upwards and both limbs dip towards the axial plane. It is a fold in which younger rocks are always found at the centre of the curvature. It may be symmetrical or asymmetrical.</p> <p>Symmetrical fold: When the axial plane is vertical and bisects the fold equally, the fold is said to be symmetrical or upright fold. They may be anticline or syncline in nature and limbs have the same amount of dip on either side.</p> <p>Asymmetrical fold: In these folds the axial plane is inclined. Such folds are known as asymmetrical folds. In these folds, the axial plane cannot divide it into two symmetrical halves.</p> <p>Or</p> 	5
39.	<p>Possession of hard parts: Organisms with the hard parts (Skeletons, bones, barks, shell teeth, etc) of some kind or other will have better chances to be preserved as fossils, where as the soft parts will decay and decompose after their death.</p> <p>Immediate burial: If burial does not occur after the death of the organism, it may decay or be destroyed by animals or other agencies. Quick burial helps to preserve properly. Such conditions are more favorable in aquatic environment than terrestrial.</p>	5

40.		5
41.	<p>Intrusive rock forms: These rock forms are of two types- concordant and discordant.</p> <p>Concordant forms: These are igneous intrusive bodies which are parallel to the bedding planes or weaker planes of country rocks because they are unable to cut across the rocks. Ex: sill. Usually sills are thin, tabular, concordant igneous bodies</p> <p>Discordant form: these are the intrusive bodies which cut across the pre existing rocks. Ex: Dykes. Dykes are discordant igneous forms and are wall like structures. They are hard and compact.</p> <p>Or</p> 	5

42.



5

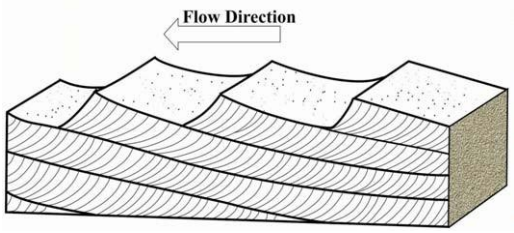
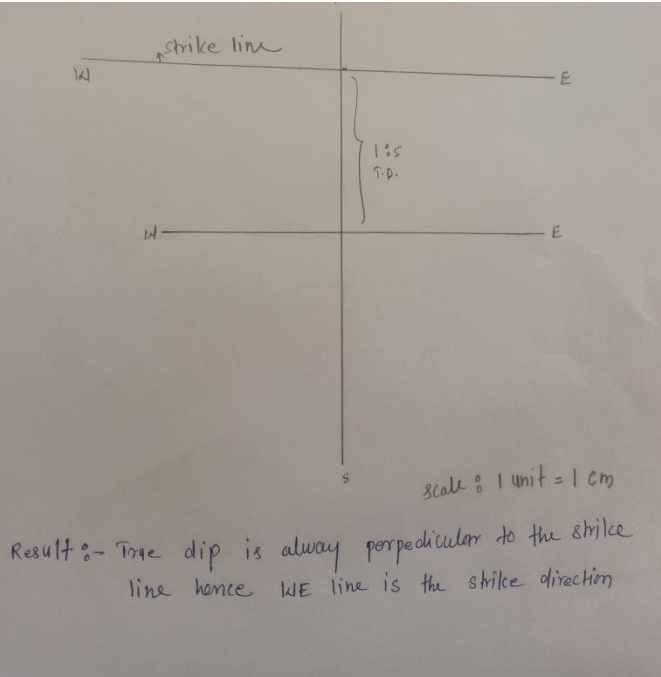
The third major eras of the Earth’s history, beginning about 65.5 million years ago and extending to the present. It was the interval of time during which the continents assumed their modern configuration and geographic positions and during which the Earth’s flora and fauna evolved toward those of the present. Cenozoic life was strikingly different from that of the Mesozoic. The great diversity that characterizes modern-day flora is attributed to the explosive expansion and adaptive radiation of the angiosperms that began during the Late Cretaceous. As climatic differentiation increased over the course of the Cenozoic, flora became more and more provincial. Deciduous angiosperms, for instance, came to predominate in colder regions, whereas evergreen varieties prevailed in the subtropics and tropics.



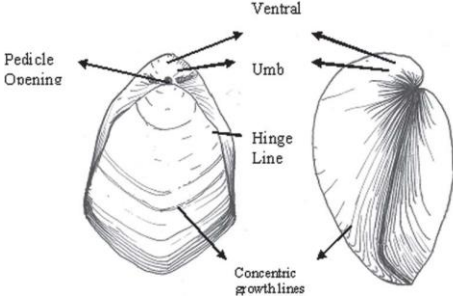
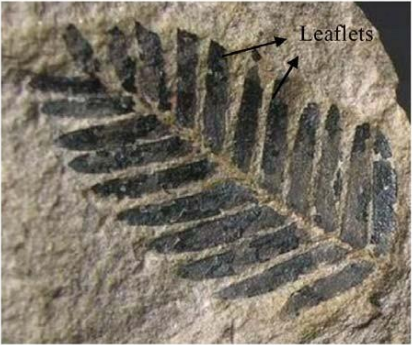
43.

The preexisting country rocks undergo disintegration and decomposition. Sedimentary rocks are formed by processes of weathering, transportation and deposition. Sediments derived after weathering, transportation and deposition are consolidated by a process called lithification and diagenesis to form a sedimentary rock.

The sedimentary rocks thus formed are broadly divided into two groups- exogenetic (allogenic) and endogenetic (authigenic). Exogenetic rocks are the products of fragmentation of the source rock outside the basin of sedimentation. Endogenetic rocks are produced out of precipitation from solution within the basin.

5

44.	a.	It is a dark coloured rock (mafic), hard and compact with medium specific gravity. The mineral constituents are pyroxene and plagioclase feldspar. It exhibits ophitic/sub ophitic texture. The mineral grains are fine to medium. Dolerite occurs as dykes.	5
	b.	This is also a rudaceous rock consisting of angular to sub angular grains of more than 2 mm size and having heterogeneous composition. The angular fragments indicate lesser transport.	
45	a.	<p>Cross-stratification is a general term for the internal bedding structure produced in sand by moving wind or water. The cross bedding is formed by the ocean currents or by wind currents.</p> 	2.5
	b.	 <p>Result:- True dip is always perpendicular to the strike line hence WE line is the strike direction</p>	2.5

46.	<p>Granulose Structure:</p> <p>It is a typical structure of metamorphic rocks characterized by an essentially granular character. The individual grains equi dimensional and are interlocking. Foliation is absent or negligible. Rocks with granular structure are termed as granulites. The texture exhibited is granulose. Ex: Marble and Quartzite</p>	 <p>5</p>
47.	<p>Vesicular structure: When lava flows on the surface of the earth, the volatile gases present in the lava escape giving rise to vesicles or cavities in the volcanic rock. The rocks having such vesicles are called vesicular structure</p> 	5
48.	<p>a.</p> 	2.5
	<p>b.</p> 	2.5

49.	<p>Body is large, elongated and posteriorly narrow. Head or shield is broad and semi-circular. Genal spines are long. Glabella is broad. Facial sutures extend from posterior to anterior border. Eyes are arched and prominent. Thorax long with 10 - 20 segments. Pleurae are grooved and produced into large backwardly directed spines. Pygidium very small, plate-like with 5 to 6 segments. The shell is composed of chitinous material</p>	5
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