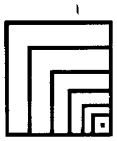
New York State Documents
Regents Examinations

EARTH SCIENCE

June 1956



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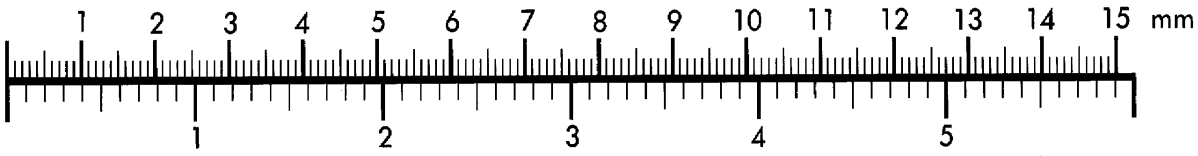


Inches

The University of the State of New York

327TH HIGH SCHOOL EXAMINATION

EARTH SCIENCE

Tuesday, June 19, 1956—9:15 a.m. to 12:15 p.m., only

Write at top of first page of answer paper (*a*) name of school where you have studied, (*b*) number of weeks and recitations a week in earth science. Give either the total number of laboratory periods in earth science and the length of such periods or the number of laboratory exercises performed. A paper lacking the statement of laboratory work will not be accepted at a standing of less than 75 credits.

The minimum time requirement is five periods per week for a school year, including at least one prepared laboratory period or its equivalent. [Two unprepared laboratory periods are considered the equivalent of one prepared laboratory period. At least 30 laboratory exercises are required.]

Name of pupil.....Name of school.....

Answer all questions in part I and five questions from part II. Answers to the questions in part I should be written on the question paper as directed and handed in with the other answer paper. Answers should be numbered and lettered to correspond with the questions.

Part I

Answer all questions in this part.

Write on the line at the right of *each* statement or question the *number* preceding the word or expression that best completes the statement or answers the question. [26]

1 The boundary between air masses is called (1)a divide (2)a front (3)an isobar (4)an isotherm 1.....

2 Scratches made by glaciers on bedrock are called (1)driftless areas (2)glacial troughs (3)streaks (4)striae 2.....

3 Wind erosion is most effective in those regions where the climate is (1)cold (2)dry (3)hot (4)humid 3.....

4 Much of the heat gained by the earth during the day is lost at night by (1)conduction (2)convection (3)radiation (4)reflection 4.....

5 Latitude may be determined by the use of (1)an altimeter (2)a chronometer (3)a compass (4)a sextant 5.....

6 Ground water becomes hard when it flows through areas containing considerable quantities of (1)calcite (2)feldspar (3)hematite (4)hornblende 6.....

7 A metamorphic rock that may be formed from granite is (1)gneiss (2)marble (3)quartzite (4)slate 7.....

8 Heavy local rainfall has little or no effect on the nearby (1)artesian wells (2)hillside springs (3)ordinary wells (4)water table 8.....

9 In which belt are heavy daily rains characteristic of the weather? (1)doldrums (2)horse latitudes (3)trades (4)westerlies 9.....

10 An atmospheric pressure of 29.92 inches of mercury is equivalent to a pressure in millibars of (1) 992 (2) 1000 (3) 1013.2 (4) 14.7 10.....

11 The standard time meridian for the Central Standard Time Belt is (1) 75° W. (2) 90° W. (3) 105° W. (4) 120° W. 11.....

12 Clay may result from the chemical weathering of (1)calcite (2)feldspar (3)hematite (4)quartz 12.....

13 A mineral harder than glass is (1)calcite (2)mica (3)quartz (4)talc 13.....

14 A partly drowned glacial valley is called (1)an erratic (2)an estuary (3)a fiord (4)a hanging valley 14.....

15 A pilot observes the following cloud sequence: cirrus, cirrostratus, altostratus, nimbostratus. He is probably approaching a (1)cold front (2)polar front (3)stationary front (4)warm front 15.....

16 At which phase of the moon may earthshine be seen? (1)first quarter (2)full moon (3)new crescent (4)old gibbous 16.....

17 There are no valley glaciers in (1)Asia (2)Australia (3)Europe (4)North America 17.....

18 The direction of movement of the last continental ice sheet may be indicated by (1)cirques (2)crevasses (3)drumlins (4)kames 18.....

19 Which is a characteristic condition along a rapidly moving cold front? (1)stratus-type clouds (2)fog (3)cumulus-type clouds (4)clear skies 19.....

20 At the start of Daylight Saving Time, clocks are (1)set ahead one hour (2)set back one hour (3)set to sidereal time (4)unchanged 20.....

21 Areas of quiet water between offshore bars and the mainland are called (1)estuaries (2)fiords (3)lagoons (4)tidal inlets 21.....

22 All parts of the earth have approximately 12 hours of daylight on (1)June 21 (2)July 1 (3)September 23 (4)December 21 22.....

23 At the equator, 15 degrees of longitude is approximately equal to (1) 0 miles (2) 70 miles (3) 80 miles (4) 1000 miles 23.....

24 Compared with a land area, a water area (1)heats more rapidly and cools more rapidly (2)heats more rapidly and cools more slowly (3)heats more slowly and cools more rapidly (4)heats more slowly and cools more slowly 24.....

25 Loess is a deposit formed chiefly by (1)ground water (2)rivers in old age (3)valley glaciers (4)wind 25.....

26 The Palisades of the Hudson River is a (1)batholith (2)dike (3)laccolith (4)sill 26.....

Write on the line at the right of *each* statement the word or expression that, when inserted in the blank, will make the statement true. [12]

27 The chief mineral in limestone is known as .... 27.....

28 The instrument that records earthquakes is the .... 28.....

29 The temperature at which air becomes saturated with water vapor is called the .... 29.....

30 When a cold front overtakes a warm front, a (an) ... front develops. 30.....

31 The name of the only active volcano in the United States is .... 31.....

32 The high land that separates one drainage basin from the next is known as a (an) .... 32.....

33 An isotherm joins places having the same .... 33.....

34 The distance in degrees east or west of the prime meridian is called .... 34.....

35 A river lengthens its valley by a type of erosion known as ... erosion. 35.....

36 The Black Hills of South Dakota and the Henry Mountains of Utah are examples of ... mountains. 36.....

37 The name of the star that hardly changes its position during the night is .... 37.....

38 Tides of least range are called ... tides. 38.....

In *some* of the following statements the italicized term makes the statement incorrect. For each *incorrect* statement, write on the line at the right the term that must be substituted for the italicized term to make the statement correct. For each *correct* statement, write the word *true* on the line at the right. [12]

39 Continuous rain is usually associated with *nimbostratus* clouds. 39.....

40 The windward sides of mountains tend to be *dry*. 40.....

41 Sediment tends to be deposited at the *inside* of each curve of a meandering stream. 41.....

42 Natural levees are likely to be found on *flood* plains. 42.....

43 The angular height of a heavenly body measured from the horizon is known as the *altitude*. 43.....

44 Waterfalls are characteristic of *old* river valleys. 44.....

45 When it is midnight at the 180-degree meridian, it is noon at the *prime* meridian. 45.....

46 The inclination of the earth's axis is *forty-seven* degrees. 46.....

47 One expects to find oxbow lakes in the lower course of the *Mississippi* River. 47.....

48 Rivers that sweep down from steep mountains onto valley floors deposit much of their sediment and form *deltas*. 48.....

49 A halo around the sun is caused by *cirrostratus* clouds. 49.....

50 In general, the *youngest* rock layers are found closest to the surface of the earth. 50.....

Part II

Answer five questions from this part.

1 During one of the hurricanes which affected the eastern seaboard in August 1955, the following weather observations were recorded at International Airport, New York City: ceiling 1100 feet; sky overcast; visibility 1 mile; weather rain and fog; barometer 985.5 millibars; temperature 64° F.; dewpoint 63° F.; wind northeast at Beaufort force 6.

a Draw a station model correctly indicating *five* of these weather elements. [5]

b Name the instrument used to measure each of *five* of these weather elements. [5]

2 *a* What is the difference between a galaxy and a constellation? [2]

b What is the difference between a satellite and a planet? [2]

c The color of a star indicates its heat. List yellow, white, and red stars in *descending* order of surface temperature, starting with the hottest. [3]

d How does the length of a year on Mars compare with the length of a year on the earth? [1]

e Why are different constellations visible during different months of the year? [2]

3 *a* Explain how the slope and the porous condition of the surface of the ground determine how much rainfall will seep into the ground. [2]

b Mention *two* ways in which the amount of ground water may be increased. [2]

c Explain how a natural bridge may be formed in a limestone region. [2]

d Name *two* deposits formed by ground water. [2]

e Briefly explain the difference between an artesian well and a hillside spring. [2]

4 Mountains are outstanding land forms of the earth's surface.

a Describe how each of *two* of the following mountains was formed: Adirondacks, Appalachians, Rockies, Sierra Nevada. [4]

b All great mountain ranges of the world are in two belts near the borders of continents, parallel to the ocean.

(1) Specify the location of these belts. [2]

(2) Explain briefly why these mountain ranges are located where they are. [2]

c Earthquakes and volcanic belts are located in the same areas as the belts of great mountain ranges. Suggest a possible cause for this relationship. [2]

5 Destructive hurricanes have become a matter of concern to the northeastern states of this country.

a Account for the heavy rainfall associated with hurricanes. [2]

b What is the *usual* path of a hurricane which originates in the West Indies? [2]

c Why do hurricanes cause high water along the sea coast? [2]

d How are hurricanes discovered and tracked? [2]

e Why does the direction of the wind change as a hurricane passes? [2]

6 Give an explanation for each of *five* of the following: [10]

a Marine fossils are found in relative abundance in many sedimentary rocks of New York State.

b Sand dunes are not as extensive on the western shores of Lake Michigan as they are on the eastern shores of the same lake.

c Dust storms removed tons of precious top soil from the Great Plains region in the middle 1930's.

d Niagara Falls is constantly receding.

e Great Salt Lake is a very salty lake, whereas Lake Champlain is a fresh-water lake.

f The relative amounts of uranium and lead in a rock deposit aid in determining the age of the deposit.

7 *a* Explain why the same side of the moon always faces the earth. [2]

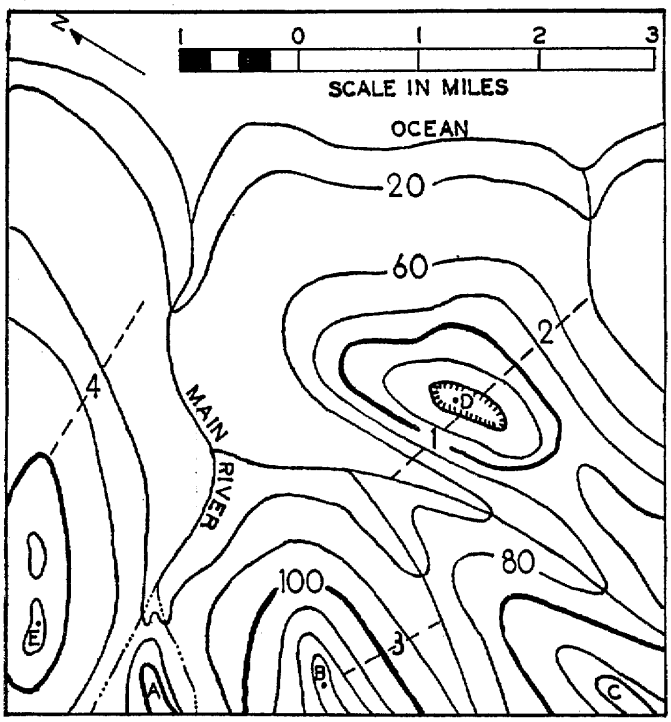
b Make a diagram showing the positions of the sun, moon, and earth at a spring tide. [2]

c A total solar eclipse was visible in 1954 in the United States. Why was it possible for so few people to see it? [2]

d Give *two* reasons why the moon is believed to be without life. [2]

e Distinguish between the apparent and the real motions of the moon. [2]

8 The following questions refer to the map below:



a What is meant by a contour interval of 20 feet? [2]

b Which of the four numbered slopes is the steepest? Explain your answer. [2]

c What is the direction from *B* to *D*? [1]

d How far is it from *D* to *E*? [1]

e Draw *on the map* the missing 40-foot contour line. [2]

f (1) What topographic feature is represented at *D*? [1]

(2) Suggest a possible explanation for the presence of this feature. [1]

FOR TEACHERS ONLY

ESc

INSTRUCTIONS FOR RATING
EARTH SCIENCE

Tuesday, June 19, 1956—9:15 a.m. to 12:15 p.m., only

Use only *red* ink or pencil in rating Regents papers. Do not attempt to *correct* the pupil's work by making insertions or changes of any kind.

Part I

Allow a total of 50 credits on part I, 1 credit for each correct answer. For questions 27–50, a variation will be accepted if the answer is scientifically correct. However, in questions 39, 41–43, 45, 47 and 49–50 for which *true* is the correct answer, no variations will be allowed.

(1) 2
(2) 4
(3) 2
(4) 3
(5) 4
(6) 1
(7) 1
(8) 1
(9) 1
(10) 3
(11) 2
(12) 2
(13) 3
(14) 3
(15) 4
(16) 3
(17) 2
(18) 3
(19) 3
(20) 1
(21) 3
(22) 3
(23) 4
(24) 4
(25) 4
(26) 4
(27) calcite ($CaCO_3$)
(28) seismograph
(29) dew point
(30) occluded
(31) (Mt.) Lassen (Peak)
(32) divide
(33) temperature
(34) longitude
(35) headward
(36) domed
(37) Polaris
(38) neap
(39) true
(40) wet
(41) true
(42) true
(43) true
(44) young
(45) true
(46) $23\frac{1}{2}$
(47) true
(48) alluvial fans (plains)
(49) true
(50) true