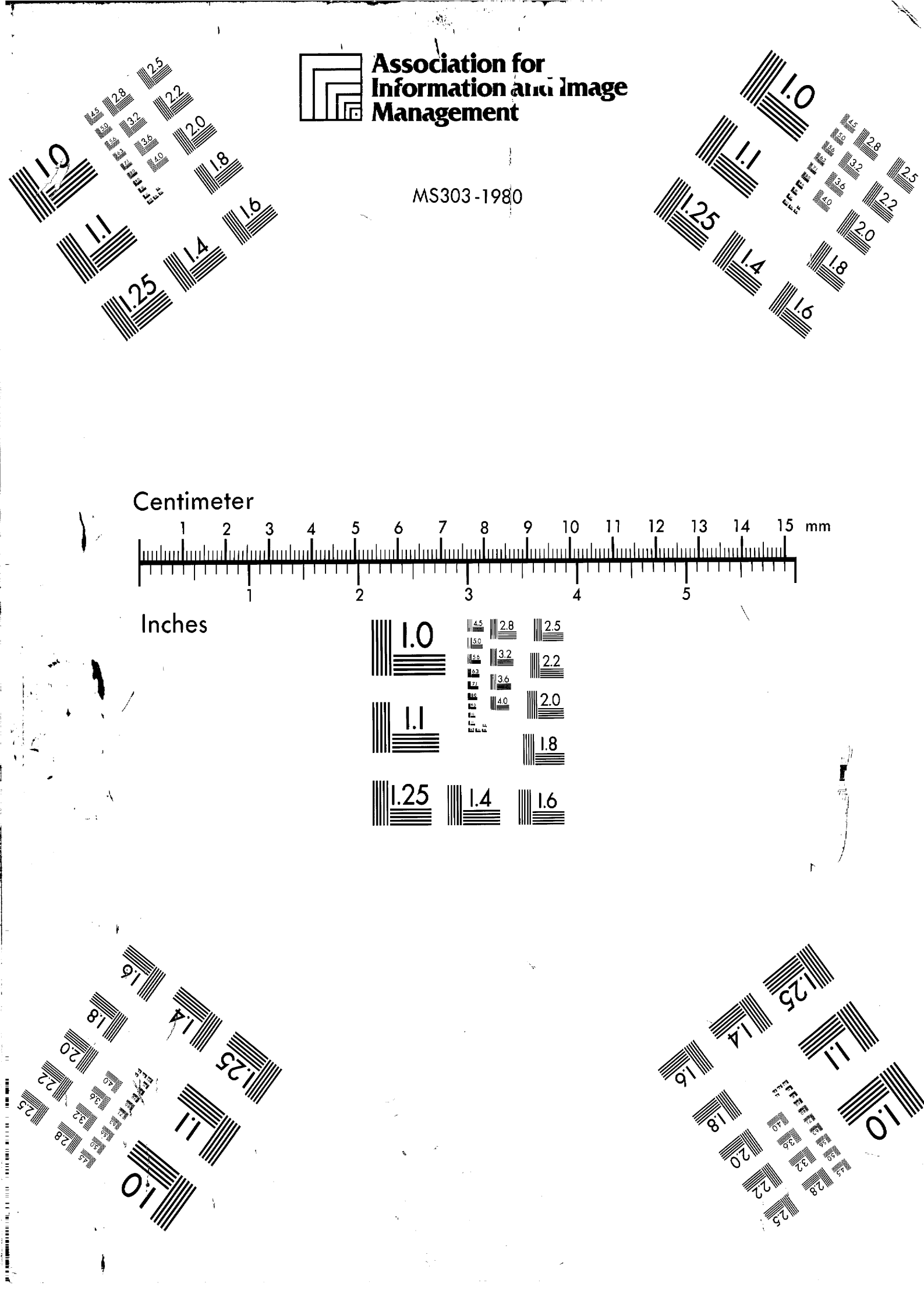
New York State Documents
Regents Examinations

EARTH SCIENCE

June 1955


Association for
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MS303-1980
Centimeter
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The University of the State of New York

324TH HIGH SCHOOL EXAMINATION

EARTH SCIENCE

Tuesday, June 21, 1955 — 1.15 to 4.15 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 1

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. [25]

1 Lines that connect places having the same elevation are called (1)contours (2)divides (3)isobars (4)isotherms 1.....

2 Perspiration evaporates most readily when the atmosphere is (1)cool and dry (2)cool and moist (3)warm and dry (4)warm and moist 2.....

3 A national park noted for its caverns is (1)Carlsbad (2)Everglades (3)Glacier (4)Yellowstone 3.....

4 The study of the earth's crust is known as (1)astronomy (2)botany (3)geology (4)meteorology 4.....

5 Weather is most variable in the wind belts called the (1)doldrums (2)horse latitudes (3)trades (4)westerlies 5.....

6 Phases of the moon result from the (1)earth's revolution (2)earth's rotation (3)moon's revolution (4)moon's rotation 6.....

7 The shortest distance between New York and London is measured along (1)a great circle (2)an isogonic line (3)a parallel (4)a rhumb line 7.....

8 A fingernail is harder than (1)calcite (2)feldspar (3)quartz (4)talc 8.....

9 Soils that remain where they were formed by weathering are known as (1)alluvial (2)glacial (3)residual (4)transported 9.....

10 In which of these rocks is the aquifer for artesian wells found? (1)igneous (2)metamorphic (3)plutonic (4)sedimentary 10.....

11 Which air mass brings cold dry weather to northeastern United States? (1)cP (2)mP (3)mT (4)S 11.....

12 Which of these minerals shows no cleavage? (1)calcite (2)gypsum (3)mica (4)quartz 12.....

13 Hanging valleys were made by (1)faulting (2)glacial action (3)submergence of a coast (4)volcanic action 13.....

14 The Palisades of the Hudson is an example of a (1)batholith (2)dike (3)laccolith (4)sill 14.....

[OVER]

15 The direction in which the ice sheet moved across New York State can best be determined by studying (1)drumlins (2)ground moraine (3)kames (4)kettle holes 15.....

16 During a summer afternoon at the beach, the wind usually blows (1)from the land (2)from the water (3)parallel to the shore (4)not at all 16.....

17 If the axis of the earth were inclined 45° instead of 23½°, the summers in this State would be (1)cooler (2)warmer (3)longer (4)shorter 17.....

18 The Atlantic Coastal Plain was formed as the result of (1)emergence (2)faulting (3)glaciation (4)submergence 18.....

19 The composition of the stars can best be studied with a (1)chronometer (2)radiometer (3)seismograph (4)spectroscope 19.....

20 The difference between the levels of low tide and high tide is called (1)flood tide (2)neap tide (3)tidal race (4)tidal range 20.....

21 A plateau formed by lava flows is the (1)Appalachian (2)Colorado (3)Columbia (4)Piedmont 21.....

22 A kettle pond is most likely to change into a (1)cirque (2)lagoon (3)pothole (4)swamp 22.....

23 The height above the ground at which clouds cover half the sky is known as (1)altitude (2)ceiling (3)elevation (4)tropopause 23.....

24 The interval of time between two successive passages of the sun across a given meridian is a (1)civil day (2)conventional day (3)sidereal day (4)solar day 24.....

25 The moon rises about 50 minutes later each day because of the (1)earth's revolution (2)earth's rotation (3)moon's apparent westward motion (4)moon's real eastward motion 25.....

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. [15]

26 The cyclonic storms that may originate near the West Indies and move up our eastern coast are called .... 26.....

27 A downfold of rock is called a (an) .... 27.....

28 The common astronomical unit of distance is the .... 28.....

29 As the atmosphere becomes warmer, its pressure .... 29.....

30 River basins are separated by ridges called .... 30.....

31 At sea level the normal pressure of a column of mercury in a barometer is ... millibars. 31.....

32 Lines that connect all places on a weather map having the same temperature are called .... 32.....

33 A shifting deposit of sand made by wind is known as a (an) .... 33.....

34 In summer in the United States the average air temperature of the east coast is ... than that of the west coast at the same latitude. 34.....

35 Distributaries are found on alluvial deposits called .... 35.....

36 As the latitude decreases, the altitude of the snow line .... 36.....

37 The temperature to which air must be cooled to result in saturation is called the .... 37.....

38 The length of the year is determined by the period of ... of the earth. 38.....

39 The greatest known marine depths are in the ... Ocean. 39.....

40 Pitchblende is an important commercial source of the metal, ... 40.....

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. [10]

41 Fossils are usually found in *igneous* rock. 41.....

42 The horizontal distance at which landmarks can be seen is known as *visibility*. 42.....

43 Wind velocities generally *decrease* with altitude. 43.....

44 Dry farming can be carried on at places located on the *leeward* side of mountains. 44.....

45 An outcrop occurs where the *bedrock* has been removed. 45.....

46 Erratics on a hilltop are evidences of *glaciation*. 46.....

47 Occlusions occur mainly because cold fronts move at a speed *greater than* that of warm fronts. 47.....

48 A portion of the sea set off from the ocean by a barrier beach is a (an) *lagoon*. 48.....

49 Faults are always found in *block* mountains. 49.....

50 An igneous intrusion that forces its way between rock layers is called a (an) *sill*. 50.....

Part II

Answer five questions from this part.

1 The accompanying map represents a portion of the earth with the North Pole in the center. The outer circle is the Equator and the two inner circles are the Arctic Circle and the Tropic of Cancer. The date is March 21. It is noon at 60° W. Answer the following *on the map:*

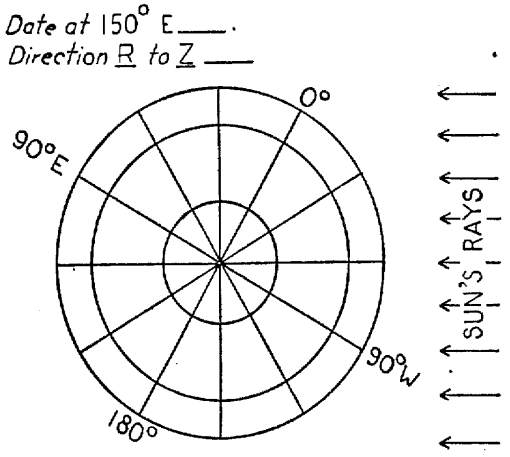
a Shade that part of the earth that is in darkness. [2]

b Write the letter *R* on the Equator where it is sunrise at this time. [2]

c Write the letter *Z* at the point where the sun is in the zenith at this time. [2]

d Write the date at 150° E. [2]

e Indicate the direction from point *R* to point *Z*. [2]



2 *a* Classify *each* of the following rocks as igneous, sedimentary or metamorphic: anthracite, conglomerate, gneiss, limestone, pumice, shale. [6]
b Name *two* minerals that are always found in granite. [2]
c State *two* ways in which loose sediments are changed into consolidated rock. [2]

3 The amount of radiant energy received from the sun varies.
a Explain why the vertical rays of the sun have a greater heating effect than do the slanting rays. [2]
b State *two* atmospheric conditions that affect the amount of insolation. [2]
c How does unequal heating of the earth's atmosphere cause winds? [2]
d Draw a *fully labeled* diagram representing the planetary wind and calm belts of the Northern Hemisphere from 30° N. to 90° N. latitude. [Use arrows to indicate wind direction.] [4]

4 The diagram at the right below represents a cyclonic area that is becoming occluded. [Answer *a* and *b* on the diagram *on this paper*; answer *c*, *d* and *e* *on your answer paper.*]

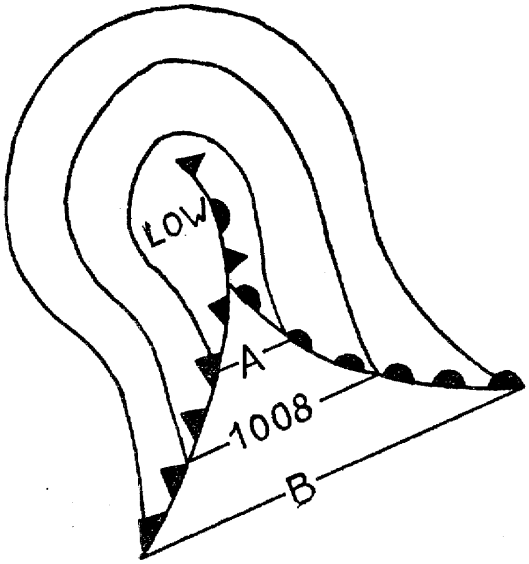
a Label the three fronts. [3]

b Indicate with at least *four* arrows the general wind circulation within the cold and warm air masses. [2]

c Indicate the correct pressure on isobars *A* and *B*. [2]

d Does pressure usually increase or decrease after the passage of a cold front? [1]

e Why do clouds and precipitation occur along or near fronts? [2]



5 *a* The Allegheny Plateau extends across most of southern New York State.
(1) Describe this plateau, including in your discussion the chief type of rock, the usual attitude (position) of the bedrock, the relative heights of distant hilltops and the stage of the erosion cycle. [4]
(2) Which *two* of the following features can be observed in this region: cinder cones, loess, terminal moraine, buttes, U-shaped valleys? [2]
(3) Why is land transportation eastward or westward across this region more difficult than land transportation northward or southward? [2]
b Account for the origin of any *one* of the Finger Lakes. [2]

6 *a* State *two* methods by which a farmer in New York State can prevent soil erosion. [2]
b Name *two* agents that remove the products of weathering. [2]
c Explain why the mantle of arid regions is easily eroded. [2]
d Distinguish between a sinkhole and a pothole. [2]
e Distinguish between a meander and an oxbow lake. [2]

7 *a* Distinguish between the terms in *each* of the following pairs: [6]
(1) meteor — comet (2) constellation — galaxy (3) planet — star
b In which of the six classifications named in *a* does *each* of the following belong: Arcturus, Cassiopeia, Milky Way, Uranus? [4]

8 The following questions refer to the map at the right.

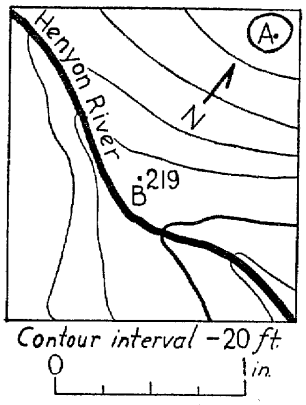
a What is the highest possible elevation of hill *A*? [2]

b In what general direction does Henyon River flow? How do you know? [1, 1]

c Point *A* is four miles from point *B*. What is the scale of this map? [2]

d What is the slope in feet per mile from point *B* to point *A*? [2]

e Draw a depression contour at 200 feet in the southern part of the map. [2]



FOR TEACHERS ONLY

ESc

INSTRUCTIONS FOR RATING
EARTH SCIENCE

Tuesday, June 21, 1955 — 1.15 to 4.15 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 26–50, a variation will be accepted if the answer is scientifically correct. However, in questions 42 and 44 and questions 46–50 for which *true* is the correct answer, no variations will be allowed.

(1) 1
(2) 3
(3) 1
(4) 3
(5) 4
(6) 3
(7) 1
(8) 4
(9) 3
(10) 4
(11) 1
(12) 4
(13) 2
(14) 4
(15) 1
(16) 2
(17) 2
(18) 1
(19) 4
(20) 4
(21) 3
(22) 4
(23) 2
(24) 4
(25) 4

(26) hurricanes
(27) syncline
(28) light year
(29) decreases
(30) divides
(31) 1013–1016
(32) isotherms
(33) dune
(34) greater
(35) deltas
(36) increases
(37) dew point
(38) revolution
(39) Pacific
(40) uranium (radium)
(41) sedimentary
(42) true
(43) increase
(44) true
(45) mantle rock
(46) true
(47) true
(48) true
(49) true
(50) true

Part II

4 *c* Inasmuch as the United States Weather Bureau is using 4 mb. intervals on some of its maps, acceptable answers are: 1005 and 1011
or
1004 and 1012