Dynamic Planet
Practice Test 2013

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Part 1: Multiple Choice

1. Which of the following is NOT related to alpine glaciation?
a) Serac
b) Kame
c) Col
d) Paternoster Lake

2. The common name for sedimentary rock formed from glacial deposits is:
a) Glacitectonite
b) Glacial Sandstone
c) Tillite
d) Agassite

3. When did the pleistocene ice age occur?
a) 2.5- .01 mya
b) 5-2.5 mya
c) 7.54 mya
d) 10-8 mya

4. According to the Milankovitch Cycle, which of the following is responsible for the 40,000 year cycle?
a) Precession
b) Eccentricity
c) Obliquity
d) All of the above have an equal effect on the 40,000 year cycle

5. Which of the below is NOT true of isostatic rebound?
a) It is responsible for an increase of land in Fennoscandia
b) It causes the Earth's shape to be more oblate
c) It is caused solely by Ice sheets of the most recent ice age
d) It is compensated by submerging of land elsewhere

6. Long Island is an example of what glacial landform?
a) Drumlin
b) Swale
c) Crag and Tail
d) End Moraine

7. The opening of a glacial tunnel is known as a(n)
a) esker
b) moulin
c) stratugi
d) penitent

8. What two landforms both involve filling of a glacial depression?
a) kame and drumlin
b) nunatak and tarn
c) kame and kettle pond
d) moraine and moulin

9. The lee side of a roche moutonee is primarily shaped by
a) abrasion
b) quarrying
c) deposition
d) None of the above

10. The Valparaiso moraine
a) is near the city of Valparaiso, Chile, carved by an alpine glacier, and a major silver deposit
b) is all that is left of the Valparaiso ice sheet of Patagonia and Northern Antarctica
c) is the largest moraine (of many large moraines) in Scandinavia, near the city of Malmo, Sweden
d) surrounds Lake Michigan near Valparaiso, Indiana

Part II: Matching
Identify the feature on the left with the description best fitting it on the right

11. Drumlin
12. Kame
13. Esker
14. Stratugi
15. Katabatic
16. Medial Moraine
17. Piedmont Glacier
18. Tidewater Glacier
19. Cirque
20. Arete
21. Nunatak
22. Slichelwane
23. Ice Cap
24. Ice Dome
25. Ice Sheet

a) Formed when two glaciers merge
b) Describes winds caused by temperature difference of air over a glacier
c) The zone of accumulation for an ice sheet
d) Bowl-shaped depression on the side of a mountain, carved by glacier
e) Snow dunes
f) A n alpine glacier that enters the lowlands and spreads out over a plain
g) A mountain peak protruding out of a continental glacier
h) A winding ridge of deposited sediment, formed under the glacier itself.
i) The ridge where two cirques meet
j) A streamlined, tear dropped shaped hill caused by deposition. Common around the midwest
k) Irregularly shaped hill composed of outwash sediment
l) Glaciers calving off at the ocean's edge
m) Continental glacier smaller than 50,000 sq. km
n) Sickle-shaped p-form depression formed underneath the glacier itself
o) Continental glacier larger than 50,000 sq. km, only found in Greenland and Antarctica

Part III

Answer the following questions based on the given images

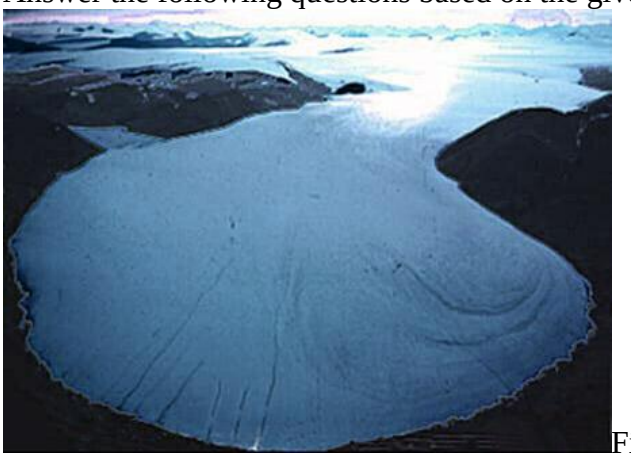

Figure A

26. Identify the type of glacier in Figure A

Figure B

27. Identify the landform in Figure B
28. Is this an erosional or depositional landform?
29. On your answer sheet, draw an arrow indicating the direction the glacier was flowing
30. According to one popular theory, this landform is caused by deformation of a so-called rogen moraine. Give the more common name of this landform.

Figure C

31. Identify the landform in Figure C
32. How was this landform formed?
33. What mountain range is this particular peak located in?

Figure D

34. Identify the type of striations in Figure D
35. With your pencil, draw an arrow indicating the direction of the glacier

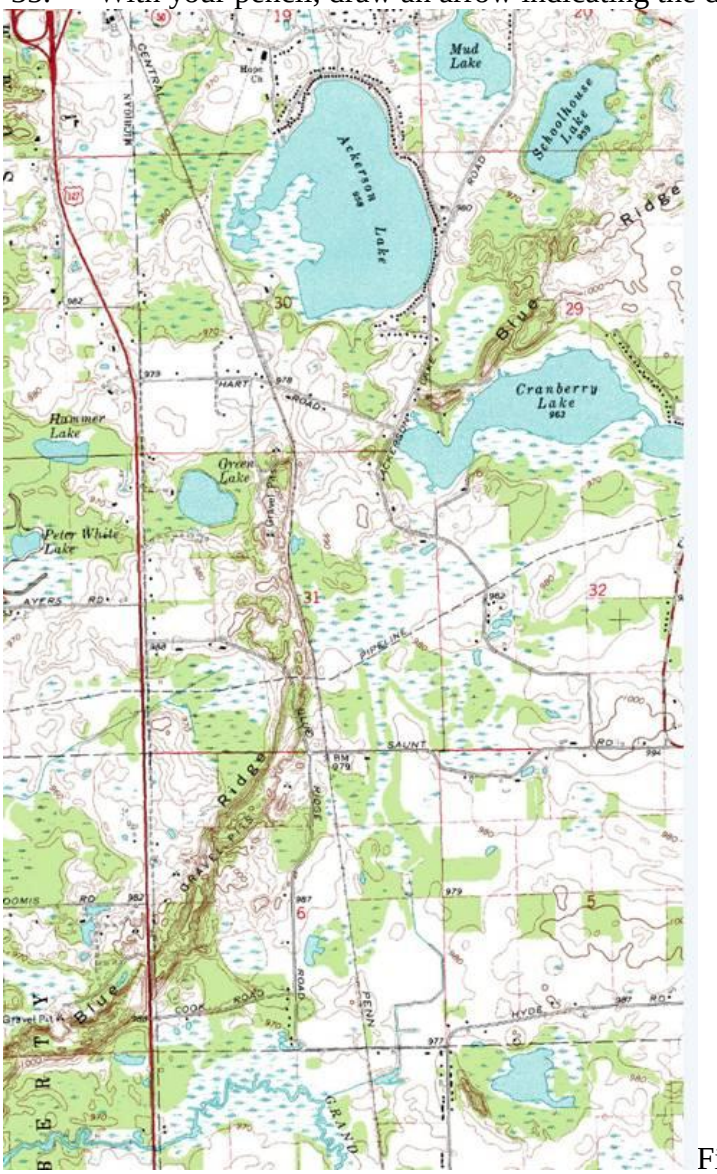

Figure E

36. Identify the "Blue Ridge" in Figure E
37. Was this glacier going North/South, or East/West (assume North is at the top of the map)

38. What sort of lakes are Rimmer Lake and Peter White Lake, at the left end of the picture?
39. Is the sediment within the Blue Ridge probably stratified or unstratified?
40. The largest of this type of landform in North America is the _____?

Part IV
Random Questions

41. What is the largest glacier not located in the Arctic or Antarctic?
42. What is the longest glacier not located in the Arctic or Antarctic?
43. Why is it that Chile has several glaciers in close proximity to the equator, yet Siberia has virtually none, though it lies near the Arctic Circle.
44. Name the four major ice ages that occurred during Earth's history, and give their time frames.
45. All the world's glaciers together are collectively known as what? (hint: think hydrosphere)
46. Give two reasons why many glaciers are growing today, despite global warming?

Mr. Wahl is at the Malaspina glacier in Alaska, and wants to determine where are its zones of accumulation and ablation.
47. What instrument should he use?
48. Write a short procedure on how to use this instrument.
49. Assuming Mr. Wahl uses this instrument correctly, how can he tell which area of the glacier is accumulating and which is ablating, and why?
50. Not content to simply find out where it is ablating and accumulating, Mr. Wahl also wants to find out its velocity. He drills a hole to the bottom of the glacier, and inserts a flexible pipe. Draw a diagram showing a side cross-section of the glacier including the pipe in one year's time and label the following: rigid zone, plastic zone, basal sliding. Then, explain how you would determine the overall velocity of the glacier.