

Edmonds Community College
Astronomy 100
Winter Quarter 2007
Sample Exam # 2

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1. Relatively speaking, objects with high temperatures emit their peak radiation in short wavelengths
 - a. true
 - b. false

2. If an substance emits energy that can be viewed through a spectroscope as an emission or bright line spectrum, that substance must be a
 - a. cold, dense solid
 - b. hot, dense solid
 - c. hot, dense gas
 - d. hot, thin (less dense) gas
 - e. cold, dense gas

3. An object speeding away from you produces a set of _____-shifted spectral lines
 - a. blue
 - b. turquoise
 - c. brown
 - d. yellow
 - e. red

4. The spectral lines of hydrogen are at the same wavelengths as the spectral lines of helium (assume both are "rest" wavelengths, with no Doppler shift)
 - a. true
 - b. false

5. In what way is an absorption spectrum like an emission spectrum
 - a. the source of each type of spectrum is identical
 - b. the spectral lines are located at exactly the same wavelengths of energy
 - c. the source of each type of spectrum is hot and dense
 - d. all of the above
 - e. none of the above

6. If a star has a temperature of about 6000 K (like our Sun), this object will radiate its peak energy at about what wavelengths of the EM spectrum
 - a. visible
 - b. infra red
 - c. ultra violet
 - d. radio
 - e. x-ray

7. What is the difference between red light and blue light
 - a. wavelength
 - b. frequency
 - c. energy
 - d. all of the above
 - e. none of the above

8. Which of the following lists a portion EM spectrum in order, from left to right, short to long wavelength
- a. radio, microwave, infra red, visible, ultra violet, x-ray
 - b. visible, radio, gamma, ultra violet, x-ray, infra red
 - c. infra red, visible, ultra violet, x-ray, gamma
 - d. gamma, x-ray, ultra violet, visible, infra red
 - e. gamma, ultra violet, x-ray, infra red, visible
9. What kind of spectrum is produced by a hot, dense gas (like the “surface” of a star) shining through a hot, thin gas (like the atmosphere of a star)
- a. absorption
 - b. continuous
 - c. emission
10. Which of the following travels through space the fastest
- a. light
 - b. radio waves
 - c. infrared
 - d. x-rays
 - e. all travel at the same speed
11. A star moving rapidly toward you produces a set of _____-shifted spectral lines
- a. blue
 - b. pink
 - c. red
 - d. green
 - e. white
12. A rainbow in the sky is an example of what kind of spectrum
- a. emission
 - b. dark line
 - c. bright line
 - d. continuous
 - e. absorption
13. A long wavelength region of the EM spectrum has a low frequency
- a. true
 - b. false
14. On the Earth, the majority of earthquakes occur
- a. along the zone of maximum stress
 - b. in the center of tectonic plates
 - c. along the boundaries of tectonic plates
 - d. in the Antarctic region
 - e. in the equatorial region
15. Which of the following planets has the greatest number of moons
- a. Mars
 - b. Uranus
 - c. Jupiter
 - d. Saturn
 - e. Earth

16. Which of the following pairs of terms describes the outer planets, Jupiter, Saturn, Uranus, Neptune, but not Pluto
- | | |
|---------------------------------|----------------------|
| a. small, rocky | d. rocky, many moons |
| b. large, gaseous | e. large, few moons |
| c. few moons, thick atmospheres | |
17. What are the characteristics of Pluto that set it apart from all the other outer planets
- | | |
|------------------------|---------------------------------|
| a. it has one moon | d. it has a highly tilted orbit |
| b. it is small in size | e. all of the above |
| c. it is rocky | |
18. In the nebular hypothesis of solar system formation, the initial material out of which the solar system formed was a vast cloud of
- | | |
|------------------------|----------------------|
| a. gas and dust | d. planets and stars |
| b. hydrogen and helium | e. n-bodies |
| c. liquid water | |
19. On the Earth, the majority of volcanoes occur
- | | |
|--|-----------------------------|
| a. along the zone of maximum stress | d. in the Antarctic region |
| b. in the center of tectonic plates | e. in the equatorial region |
| c. along the boundaries of tectonic plates | |
20. Which planet has the largest ring system
- | | |
|------------|--------------------------|
| a. Jupiter | d. Uranus |
| b. Neptune | e. all are the same size |
| c. Saturn | |
21. Which of the following lines of evidence leads us to believe that the solar system formed as one “object” at about the same time
- | |
|--|
| a. nearly all the planets, moons, and the sun rotate counter clockwise on their axes |
| b. all the planets orbit the sun in a counter clockwise direction |
| c. most of the moons orbit their planets in a counter clockwise direction |
| d. the solar system is “disk” shaped |
| e. all of the above |
22. A convergent plate boundary on the Earth means that two crustal plates are moving ____
- | |
|-------------------------|
| a. alongside each other |
| b. toward each other |
| c. away from each other |
23. The Earth’s _____ is its thickest region, with the crustal plates above it.
- | | |
|---------------|---------------|
| a. outer core | d. ocean |
| b. inner core | e. atmosphere |
| c. mantle | |

24. A transform plate boundary on the Earth means that two crustal plates are moving ____
- alongside each other
 - toward each other
 - away from each other
25. Venus and Mars both have atmospheres with carbon dioxide as the major gas. In which way do these atmospheres differ.
- Venus's is hot and dense and Mar's is cold and dense
 - Venus's is hot and thin and Mar's is hot and dense
 - Venus's is hot and dense and Mar's is cold and thin
 - Venus's is hot and thin and Mar's is cold and dense
26. Which of the following planets has the most eccentric (most elliptical) orbit
- Pluto
 - Mercury
 - Uranus
 - Earth
 - Mars
27. Which of the following planets is tilted nearly 90° on its side, so that its poles point toward and away from the Sun
- Pluto
 - Mercury
 - Uranus
 - Earth
 - Mars
28. Which of the following lists places the order of the inner (rocky, terrestrial) planets correctly, from the Sun outward
- Earth, Mercury, Venus, Mars
 - Mercury, Venus, Mars, Earth
 - Mars, Earth, Venus, Mercury
 - Mercury, Earth, Venus, Mars
 - none of the above
29. Which of the following lists places the order of the outer (gaseous, Jovian) planets correctly, from the asteroid belt outward
- Jupiter, Neptune, Uranus, Saturn
 - Jupiter, Saturn, Uranus, Neptune
 - Neptune, Uranus, Saturn, Jupiter
 - Saturn, Jupiter, Uranus, Neptune
 - none of the above
30. Which of the following solar system objects is the most massive
- Jupiter
 - Sun
 - Saturn
 - Uranus
 - Asteroid and comets

31. What is the most abundant gas in the earth's atmosphere
- | | |
|-------------------|----------|
| a. Oxygen | d. argon |
| b. Nitrogen | e. ozone |
| c. Carbon dioxide | |
32. Which of the following gases is a primary "greenhouse gas"
- | | |
|-------------------|----------|
| a. Oxygen | d. argon |
| b. Nitrogen | e. ozone |
| c. Carbon dioxide | |
33. Which of the following gases is most abundant in Venus' atmosphere
- | | |
|-------------------|----------|
| a. Oxygen | d. argon |
| b. Nitrogen | e. ozone |
| c. Carbon dioxide | |
34. Which of the following best describes a nebula, out of which a solar system can form
- | | |
|--------------------------|-----------------------|
| a. cloud of stars | d. cloud of asteroids |
| b. small galaxy | e. cloud of comets |
| c. cloud of gas and dust | |
35. A planet or moon's evidence of cratering helps us determine its relative age
- | | |
|---------|----------|
| a. true | b. false |
|---------|----------|
36. Which of the following solar system objects is most heavily cratered
- | | |
|-----------------|------------------|
| a. Earth's moon | d. Earth |
| b. Mercury | e. a and b above |
| c. Venus | |
37. There is no evidence of impact craters on earth's surface
- | | |
|---------|----------|
| a. True | b. false |
|---------|----------|
38. The main asteroid belt lies between which two planets
- | | |
|--------------------|-----------------------|
| a. Earth and Venus | d. Mars and Jupiter |
| b. Venus and Mars | e. Jupiter and Saturn |
| c. Earth and Mars | |
39. Which outer planet sometimes travels outside Pluto's orbit
- | | |
|------------|----------------------|
| a. Neptune | d. Jupiter |
| b. Uranus | e. none of the above |
| c. Saturn | |
40. Which of the following planets has the fewest (or no) moons
- | | |
|----------|------------|
| a. Pluto | d. Uranus |
| b. Mars | e. Mercury |
| c. Earth | |

