



امام خمینی<sup>(ره)</sup>: این محرم و صفر است که اسلام را زنده نگه داشته است.

### Part one: Vocabulary

**Instruction:** Choose the best synonym or definition for the underlined word or expression.

- The man who was in a dangerous condition used all his might to get out of the fast-running river.
  - strength
  - hope
  - determination
  - possibility
- The two frogs ignored the comments and tried to jump up out of the pit with all their might.
  - paid no attention to
  - failed to understand
  - listened very carefully
  - got the point wrongly
- When he got older, he resorted to shoddy workmanship and used very low-quality materials.
  - cheap
  - expensive
  - careless
  - skillful
- Time and again, he kept hurling things into the ocean.
  - quietly
  - slowly
  - hurriedly
  - repeatedly
- A friend of mine was once walking down a deserted Mexican beach at sunset.
  - with very few or no people
  - full of sand
  - far from the city
  - without any plants
- He began to concentrate on where he walked his son to class at school every morning.
  - think
  - work
  - focus
  - review
- In the midst of utter devastation and chaos, a father left his wife securely at home and rushed to the school where his son was supposed to be.
  - complete
  - dangerous
  - strange
  - extensive

8. As he was digging, other **forlorn** parents arrived, clutching their hearts, saying: "my son" or "my daughter".

- |                        |                        |
|------------------------|------------------------|
| a. surprised and angry | b. sad and hopeless    |
| c. hungry and thirsty  | d. fearful and excited |

9. As soon as it seemed **decent**, the man asked if he could be switched to the bed next to the window.

- |                |              |
|----------------|--------------|
| a. comfortable | b. necessary |
| c. correct     | d. proper    |

10. As anyone who has suffered through a few sleepless nights might know, losing sleep can slow reflexes and **fog** the mind.

- |           |            |
|-----------|------------|
| a. reduce | b. improve |
| c. damage | d. confuse |

11. One or two nights of bad sleep probably do not pose much danger. However, **chronic** sleep deprivation might.

- |                             |                            |
|-----------------------------|----------------------------|
| a. happening very rarely    | b. lasting for a long time |
| c. causing serious problems | d. creating sudden changes |

12. The captain of the rescue boat team sounded the alarm and the villagers **assembled** in the town square overlooking the bay.

- |              |               |
|--------------|---------------|
| a. collected | b. surrounded |
| c. gathered  | d. expressed  |

13. Their eyes ever observe, their ears ever listen, and their minds ever process the messages they **absorb**.

- |          |            |         |         |
|----------|------------|---------|---------|
| a. think | b. receive | c. send | d. make |
|----------|------------|---------|---------|

14. Still, the only words the couple had for him were sharp **admonitions** when he dropped a fork or spilled food.

- |  |                                   |
|--|-----------------------------------|
| a. warnings about someone's behavior   | b. use of nice and kind language  |
| c. pieces of information about an even | d. encouragements for some action |

15. To my amazement, he could pass the test with a very high score. I really did not expect it.

- a. attention
- b. knowledge
- c. surprise
- d. happiness

16. The doctor told his mother that her son would surely die because the terrible fire had devastated the lower half of his body.

- a. destroyed
- b. damaged
- c. injured
- d. burned

17. There was not much current, and the water was so warm, clear and enticing.

- a. normal
- b. calm
- c. attractive
- d. dangerous

18. He decided to take the bus instead because he was concerned he might be imposing.

- a. excited
- b. annoyed
- c. worried
- d. interested

19. He ran toward the stop, but was still on the other side of the street when the bus whizzed by.

- a. moved very quickly
- b. stopped by the road
- c. turned rapidly
- d. made a strange noise

20. Wrapping his left arm around the driver's limp body, he struggled to hold him upright.

- a. loose
- b. cold
- c. huge
- d. heavy

21. Walking is also a great way to lose fat. Even if you don't lose any weight, your body will have a healthier composition.

- a. structure
- b. power
- c. situation
- d. prevention

22. Antidepressants may work more quickly to dispel depression, but at least one study found that it is not true.

- a. reduce the rate of
- b. get rid of
- c. change the form of
- d. return to normal level

23. I began looking for ways to perk up without resorting to special medications or a radical life change.

- a. do something new
- b. think more efficiently
- c. feel more energetic
- d. work harder

24. When we eat, blood rushes to the intestinal tract away from the brain, which can leave us sluggish.

- a. happy
- b. inactive
- c. creative
- d. lively

25. She must have seen how scared I was and reached over to help me.

- a. frightened
- b. comfortable
- c. stressed
- d. worried

26. She suffered almost constantly from some undiagnosed pain. No doctor could find the cause.

- a. unannounced
- b. unknown
- c. unbearable
- d. untreated

27. The subconscious and the nervous system cannot tell the difference between real and vividly imagined situations.

- a. noticeably
- b. completely
- c. wrongly
- d. hurriedly

28. Though prompted by the same kinds of experiences, melancholy feelings activated neurons in an area eight times larger in women than in men.

- a. crazy
- b. unusual
- c. strange
- d. sad

29. The reason may be that females use neural regions on both sides of the brain when they read.

- a. functions
- b. connections
- c. conditions
- d. sections

30. How is he able to recall so much information so quickly?

- a. store
- b. find
- c. remember
- d. understand

31. John could not tell them that the left side of his brain, the lobe humans use to arrange symbols logically in a sequence, had always misfired.

- a. failed                      b. burned                      c. stopped                      d. turned

32. He was pleading with bankers to extend his loans, coaxing builders to stay on the job, trying to make sense of the pyramid of paper.

- a. discussing                      b. persuading  
c. cheating                      d. talking

33. I have reflected back on this situation many times since it happened and have learned several powerful lessons from it.

- a. reviewed                      b. studied  
c. considered                      d. rejected

34. As I drove away from that busy intersection, I did so with more awareness of life and compassion for others than I had arrived there with.

- a. sadness                      b. happiness  
c. tenderness                      d. holiness

35. Within weeks, your blood becomes less sticky and your risk of dying from a heart attack starts to decline.

- a. drop                      b. grow  
c. change                      d. worsen

36. "I hurt my finger." I wailed into the phone.

- a. shouted                      b. spoke  
c. repeated                      d. cried

37. At first she listened and then used the usual words grown-ups use to try to soothe a crying child.

- a. punish                      b. help  
c. guide                      d. calm

38. Exercising your body **bolsters** your mind. For example, aerobic workouts pump blood to the brain, bringing oxygen and glucose to the brain.

- |                               |                                  |
|-------------------------------|----------------------------------|
| a. make something less active | b. make something more effective |
| c. make something weaker      | d. make something easier         |

39. Rick **confronted** once again the inadequacy of his formal education in preparing him to deal with the social and emotional issues of his life.

- |            |             |
|------------|-------------|
| a. doubted | b. avoided  |
| c. faced   | d. accepted |

40. "if mine are here," she moaned with **despair**, "then the others were his and he tried to share!"

- |                 |                 |
|-----------------|-----------------|
| a. hopelessness | b. loneliness   |
| c. happiness    | d. carelessness |

## Part Two: Reading Comprehension

Read the following passage and answer the questions by choosing the best choice.

Forget aliens, the biggest extraterrestrial threats to Earth's safety are asteroids. These leftover remnants from the creation of the planets still spread around the Solar System. While most are safely tucked away in their respective orbits, a few swing dangerously close to the Earth. Astronomers' warnings have finally been heard. It is only a matter of time, they say, before an asteroid or comet slams into the Earth and brings with it devastation on an almost unimaginable scale. The evidence, they say, is all around us. In fact, several near misses are now reported in the papers every year.

But what happens if an asteroid hits the Earth? Looking at the eyewitness reports from the 1908 Tunguska comet-impact, in Siberia, tells us what to expect if this occurs. Amazingly, no people were killed but over a thousand reindeer were burnt to a cinder. As the shock wave smashed through the forest, it felled trees and stripped them of branches, leaving them looking like telegraph poles. Hunters, further away, were knocked unconscious and thrown to the ground by the blast. Everyone within 1,000km of the impact saw the great flash in the sky from the explosion. The devastation

covers an area approximately the size of greater London. Should such an impact occur over any city, the human death toll would be measured in millions.

Tunguska was caused by an object no bigger than 100m in diameter, and you can expect impacts of that type every century or so. Of course, most will take place over one or other of the vast majority of unpopulated areas.

In the case of a repeat of the dinosaur-killing impact of 65 million years ago, the proposed scenario is almost unthinkable. When a 10km-sized asteroid hits the ground, it will throw so much dust into the air that the planet will be bathed in a fiery meteor storm. Bill Napier, an astronomer from Armagh Observatory and the author of *the asteroid thriller, Nemesis*, says: "Global destruction occurs largely through the ejection of hot ash, causing huge numbers of shooting stars that just incinerate everything. Then there will be a massive destruction of the atmosphere."

The chemicals released by the impact are likely to destroy the ozone layer and create enormous quantities of acid rain. The dust that does not fall back as meteorites becomes suspended in the atmosphere, blocking out the sunlight.

Seismic waves from the Tunguska impact were registered around the world. After a "dinosaur-killer", the entire planet would be wracked with earthquakes. "I think conservatively you are talking about Richter 9 quakes," says Napier.

#### Four Stages of Asteroid Impact

According to scientists, an asteroid impact can be divided into four stages:

*Atmospheric passage:* It would take only a few seconds for an asteroid to pass through the atmosphere. In that time, friction would heat its surface and the asteroid would become a radiating fireball as it streaked across the sky. Eyewitnesses at Tunguska said the fireball's streak stretched almost from horizon to horizon.

*Compression:* At the point of impact, the asteroid transfers its movement energy into the ground rock. This creates a shock wave that propagates away from the asteroid. During this phase, the rocks are subjected to such extreme pressures by the shock wave that they flow like a liquid.



*Excavation:* When the shock wave passes, the compressed rocks relax again, making the material expand explosively backwards, which in this case is towards the Earth's surface. So rock explodes outwards, excavating a hole in the ground, known as the crater. This is a rapid process, and the crater achieves its final form in less than 10 seconds.

*The crater:* Craters are usually bowl-shaped depressions. Larger examples sometimes have a central peak where the rock has rebounded upwards. The craters may slump, causing terracing. The depth and width of a crater depend upon factors such as the strength of the surrounding rocks and the gravitational pull of the impacting body.

### Worst Case Scenario

So, which should we worry about; global catastrophe dinosaur killer size, or smaller city-smashers? Napier says: "I think the biggest danger is a Tunguska-or super-Tunguska-sized object. Especially if it lands on water, the Atlantic, say. The tsunami caused by this would be disastrous for cities around the Atlantic rim."

Between the 100m class and the 10km class is a size range of objects that also causes concern. They are the asteroids measuring about 1km across. These would not cause global devastation but could cause global consequences, with massive damage in every country on Earth. It is estimated that such an impact would cause the death of about a third of the world's population: billions of lives. So although the human race would survive, the biggest question is: could civilization? It would seem unlikely and humanity would have to start building all over again.

At this point we may wonder why there is not a worldwide scramble to build a foolproof deflection system; ready to be deployed when the inevitable detection is made. Indeed, it seems puzzling why astronomers are adamant that the focus should be on detection, rather than on deflection, until Mark Bailey, Director of the Armagh Observatory, Northern Ireland, provides a chilling explanation. "If you can deflect a dangerous asteroid you could also direct a safe one towards the Earth. We did some theoretical work here in Armagh on this problem. We picked a random town and looked to see if there were any asteroids that we could nudge onto a collision course."



There were lots of them and, in their computer models, they used small detonations to constantly refine the orbit, whilst the asteroid was on the other side of the Sun from the Earth, hidden by the daytime sky. They demonstrated that such activity would be undetectable.

“Nobody would know about this until it landed on its target city out of a clear blue sky, several months later,” says Bailey, “So, we must follow the precepts of the Spaceguard Survey, which is to survey the whole sky to look for asteroids down to about 100 meters. Then, we catalogue all those objects and keep maintaining it with accuracy. That way, we will know decades in advance as soon as one object gets an orbit that can be dangerous to the Earth. If it does, we can deal with it as an international community, so that no single nation has access to such technology.”

41. According to the passage, what is the origin of asteroids?

- a. The leftovers from the creation of planets
- b. The collision of different planets
- c. The asteroids going out of their orbits
- d. The earth being hit by a large asteroid

42. What does the writer mean by "*near misses*" in line 6?

- a. Several asteroids whose orbits are near the Solar System planet.
- b. A number of asteroids that have passed very close to our planet.
- c. Some small asteroids that have hit the Earth in the past.
- d. Asteroids that enter the atmosphere but don't cause damage.

43. How often is it probable for an asteroid the size of Tunguska to hit the Earth?

- a. every 65 million years
- b. every hundred years or so
- c. every year
- d. every ten years

44. Which of the following most destroys life if a 10km-sized asteroid hits the earth?

- a. large amounts of chemicals
- b. strong series of earthquakes
- c. numerous shooting stars
- d. change of earth gases

45. Which of the following turns rocks into a liquid after a huge asteroid impact?

- a. High speed.
- b. Shock wave.
- c. High temperature.
- d. Extreme pressure.



46. Which of the following is the most important factor in the size of a crater caused by an asteroid?
- The speed of the asteroid.
  - The location on the earth
  - The gravitational pull of impacting asteroid.
  - The type and structure of the asteroid.
47. Which of the following makes a sea asteroid dangerous?
- It can send very hot water into land.
  - It creates large waves and destructive waves.
  - It causes an unbalance in the atmosphere.
  - It destroys all the sea life.
48. According to the passage, which of the following will probably happen if a huge asteroid hits our planet?
- The whole plant life of earth will die.
  - All except sea animals will die.
  - All types of life will die in a few weeks.
  - Human civilization will most probably be destroyed.
49. Which of the following is **TRUE**?
- At present, there is global deflection system.
  - The deflection system has already been deployed.
  - Scientists are more concerned with detection.
  - Scientists could actually detect and deflect an asteroid.
50. What did Bailey and other scientists do?
- They developed and used the Spaceguard Survey to catalogue all the asteroids larger than 100 meters.
  - They used a computer model to see if they could gradually direct an asteroid towards a certain point.
  - They changed the course of an asteroid in space.
  - They directed a safe asteroid into a collision course of a city.