READING COMPREHENSION

You are going to read an article about the consequences of Katrina storm in New Orleans. For questions 1-10, decide if the following statements are true (T) or false (F). Circle the right answer. (1 point x each correct answer=10 points)

Katrina Storm in New Orleans

Katrina's storm surges revealed just how inadequate New Orleans' flood defences were. The water simply bulldozed levees, whose designers had taken no account of extreme storms – they were built to withstand Category 2 hurricanes at the worst –and had often used poor materials.

New Orleans has two types of levee. Its earliest earthen levees were built in the 18th century, while more recent concrete and steel floodwalls form part of a scheme authorized by Congress after hurricane Betsy swamped parts of the city in 1965. The system was expected to take 13 years to complete at a cost of $85 million. But when Katrina hit, the project was still not finished and had cost $738 million. To make matters worse, the foundations of many of the levees were far too weak; the soil under the embankments was unstable, and the steel sheets reinforcing them were driven in too shallowly. Some levees did hold up, especially along the Mississippi, but these are giants – 90 m wide at the base, 30 m wide at the top and rising 7.6 m above sea level.

Another problem was shipping canals, including the Mississippi River- Gulf Outlet (MR-GO). Built to provide an express route for ships between New Orleans and the Gulf, this also acts as an express route for storm surges. 'The federal powers had designed an excellent storm-surge delivery system, to bring a mass of water with tremendous load right into the middle of New Orleans,' commented Ivor van Heerden of Louisiana State University. This is what happened on August 29, 2005when a 5 m surge tore up the MR-GO and was funneled into levees. At 6.30 am, it pushed over the funnel's levees, feeding into other canals. At 7.45 am, a stretch of levee along one canal collapsed and water exploded into the city.

The devastation caused by Katrina alerted other places vulnerable to storm surges to the potential dangers they were in. Residents of northern California, for example, looked at deteriorating levees along the Sacramento River, where a collapse would flood the Central Valley and foul the state's water supplies. Cities facing similar dangers include Miami, Rotterdam, London and Shanghai.

An effective strategy against surges include systems of dams, improved pumps for removing water and even raising parts of cities above flood level – as it was done in Galvestone, Texas, after a hurricane smashed through in 1900. Another defence, increasingly favoured by experts, is the restoration of coastal wetlands. These are a highly effective protection against storm surges, acting like sponges to soak up the incoming water. However, it is an expensive and long-term option. To keep out rising seas, engineers are prepared to sacrifice dry land to the sea – a measure that would once have been unthinkable.

QUESTIONS

1 The water defence system in New Orleans was not able to hold up a Category2 storm T / F

2 Concrete and steel floodwalls were damaged by Hurricane Betsy in 1965. T / F

3 The expected cost of concrete and steel levees authorized by Congress was $738mln. T / F

4 The steel reinforcement was not placed deep enough to stop extreme storms. T / F

5 The foundations of all levees along the Mississippi were far too weak. T / F

6 Due to the Mississippi River – Gulf Outlet the surge was held up quickly. T / F

7 Ivor van Heerden blamed the authorities for the design of the MR – GO. T / F

8 The levee along the Sacramento river collapsed and water flooded the Central Valley. T / F

9 Some areas of Galvestone were restored at the higher level after the disaster in 1900. T / F

10 Engineers have always favoured the idea of wetlands. T / F

ANSWER KEY

1F
2F
3F
4T
5F
6F
7T
8F
9T
10F