GT Reading Mock Test 21:

Part 3: Question 28-40

You should spend about **20** minutes on Questions **28-40** which are based on the text below.

General Training Reading: Olefin Fibre: A New Dimension in Textiles

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Read the text below and answer **Questions 28-40.**

Olefin Fibre: A New Dimension in Textiles

A:

By definition, textile refers to a flexible material made up of either natural or artificial fibres. Usually, a textile is produced by spinning raw fibres on a spinning wheel and converting them into long strands of thread or yarn. Textile fibres used to be broadly categorised as: animal fibre – those which are made up of animal hair and fur or; plant fibre - those which are derived from plants. The invention of olefin fibre, however, added a new dimension to the traditional categories of textile fibres.

B:

Olefin fibre is a complex fibre made from alkenes, which, in organic chemistry, are ‘unsaturated chemical compounds made up of carbon1’. The properties of olefin partially reflect the properties of synthetics, which is why it is defined as a ‘chemically manipulated synthetic fibre’. Two properties of olefin that match the properties of

synthetics are that it is man-made and its production involves the amalgamation of a set of different fibres.

C:

The discovery of olefin was due to extensive research first undertaken in Italy. In 1957, the Textile Research Laboratory of Italy began experiments to find a liquid solution that would coat fibres in such a way that the textiles made from those fibres would become strong enough to be used in the production of clothing. The scientists at the laboratory noticed that chemical ingredients, consisting mostly of carbon, showed a tendency to create strong bonds with cotton and thus, could be treated as a 'knitting ingredient' rather than a 'coating ingredient'. The initial testing of olefin yielded favourable results but surprisingly, only a few leading textile manufacturing firms in Italy profited from larger-scale manufacturing and sales. Encouraged by the modest success in Italy, the USA was one of the earliest adopters of olefin and began commercial manufacturing on a sizable scale in 1960. Today, olefin fibre is produced in over 10 countries around the world and accounts for 16% of all textile fibres manufactured worldwide.

D:

Textile researchers view the invention of olefin as important due to its strength, thickness and low specific gravity - all of which ensured that the fibres were strong without being overly heavy. Before the invention of olefin, textiles that were strong were also quite heavy, and a heavy textile meant it was less comfortable for the wearer and involved higher carriage costs from mills to marketplaces. During the 1990s, scientists in the USA improved upon both the manufacturing process and construction of olefin fibres so that they were able to absorb some moisture - an aspect which was missing

from the initial forms of olefin. With improvements in colourfastness, greater strength and the ability to resist sunlight, there have been even greater advances in the production of olefin in recent times.

E:

Despite significant advantages, two major disadvantages of olefin are that it does not dye well and it is expensive to produce. The first disadvantage is due to the production process; the fibres are bonded at such high temperatures that the addition of colour is impeded. Olefin fibres can only absorb select light colours like white, off-white and light yellow. However, it is possible to add darker colours by making the bonds weaker, the trade-off being that the threads lose some of their strength. From a functional point of view, strength is more important than colour. The second disadvantage of olefin is the hydro-spinning mill setup and thermal control equipment that are required in the manufacturing process - both are very expensive to install and maintain.

F:

Worldwide, olefin is used in the apparel, home furnishing and automotive industries. In the apparel industry, comfortable but expensive activewear can be made of olefin, particularly in the area of professional swimming. Although olefin is very warm, winter clothes are not typically made from it due to its high manufacturing price. In the home furnishing industry, olefin is often used to produce carpets, carpet tiles and other floor coverings. In expensive automobiles, interior coverings and sun visors are often made of olefin.

G:

Unlike numerous manufacturers of traditional textiles, there are very few olefin manufacturers around the world. Today, most olefin production firms are based in the USA, England and China. In the global marketplace, China has been able to export the most olefin. China's low labour cost has enabled the country to offer olefin textiles to the global market at a comparatively low price.

H:

British scientists, in collaboration with some giant European textile manufacturing companies, are now conducting extensive research to reduce olefin production costs. The challenge is to decrease the production costs without losing any of the unique properties of the textile. If the research is successful, then olefin may become a regular component of everyday clothing.

1A chemical substance which is an important part of other substances (such as coal) and occurs in all plants and animals.

Questions 28-32

The passage has eight paragraphs **A-H**. Which paragraph mentions the following information?

Write the correct letter **A-H** in boxes **28-32** on your answer sheet.

NB *You may use any letter more than once.*

28. the machines used to produce olefin

29. the benefit of olefin over other textiles

30. an expected outcome once the cost of making olefin is reduced

31. a change in the classification of textile fibres

32. various commercial uses of olefins

Questions 33-36

Answer the questions below.

Choose **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the passage for each answer.

33. What is the main chemical in olefin?

34. In which country was olefin first used commercially?

35. Who are particularly interested in the weight and strength of olefin?

36. In addition to fibre construction, what other improvement occurred in the 1990s?

Questions 37-40

Do the following information agree with the information given in the passage?

In boxes **37-40** on your answer sheet, write

TRUE if the statement agrees with the information

FALSE if the statement contradicts the information

NOT GIVEN if there is no information on this

37. In the 1990s, olefin production costs were reduced.

38. High production temperatures cause reduced colour in olefin fibres.

39. Lighter coloured olefin is not as strong as darker coloured olefin.

40. China currently leads the world in olefin production.

ANSWER
28. E 29. D 30. H 31. A 32. F 33. Carbon 34. Italy 35. Textile researchers 36. the manufacturing process 37. Not Given 38. True 39. False 40. Not Given