READING TEST 7

PART A

TIME: 15 minutes
Look at the four texts, A-D, in the separate Text Booklet.
For each question, 1-20, look through the texts, A-D, to find the relevant information.
Write your answers on the spaces provided in this Question Paper.
Answer all the questions within the 15-minute time limit.
Your answers should be correctly spelt.

Text A

Prostate cancer is the second most incident cancer among the male population worldwide. It is the second leading cause of cancer death in American men. There is no exact statistics on prostate cancer prevalence in the subcontinent; however, an estimation of 5 per 100,000 and 9 per 100,000 has been reported by two investigators. A possible reason for this lower incidence comparing with many other countries is that there are no national programs for the screening of prostate cancer in Iran. Radiation therapy by itself or along with surgery and hormone therapy are the main treatments for prostate cancer. However ionizing radiation can also have a harmful effect on healthy body tissues. Patients with prostate cancer, who accede to radiation therapy usually experience some degrees of sexual dysfunction, gastrointestinal disorders and urinary tract problems.These toxicities are known to be dose-limiting, and because higher radiation doses for patients with clinically localized prostate cancer are now considered standard of care, finding ways to diminutive symptoms burden is crucial.

Text B

Studies Conducted

Recently some in vitro and in vivo studies showed radiosensitizing and radioprotective effects by some phytochemicals. One of these phytochemicals is curcumin. It has been reported to protect various study systems, in vitro and in vivo, against the deleterious effects induced by ionizing radiation and to enhance the effect of radiation. Therefore, curcumin has the potential to be very useful during radiotherapy of prostate cancer.

Between March 2011 and March 2013, all patients recently diagnosed with localized prostate cancer at the Department of Oncology at Besat Hospital were assessed for eligibility. Patients referred to local curative radiotherapy with external beam radiotherapy (EBRT), in combination with androgen ablation (hormone), were invited to participate in the study. Adenocarcinoma of the prostate must be histologically confirmed on biopsy. All patients were with a life expectancy greater than 5 years. No metastatic disease must be detected during physical examination, standard radiography, bone scan, and magnetic resonance spectroscopy (MRS). Additional inclusion criteria were no prior hormone therapy, radiotherapy or systemic treatment for prostate cancer and no other malignancy. The exclusion criteria were clinical stage T3 or T4, Gleason score ≥ 8, serum PSA ≥ 20 ng/mL, other prior surgery for prostate cancer, concurrent participation in another clinical trial which would require approval upon entry to this trial, gastrointestinal disorders such as inflammatory bowel disease, reflux and peptic ulcers and any adverse reaction to curcumin.

Text C

The European Organization for Research and Treatment of Cancer (EORTC)

Prostate cancer-specific quality of life questionnaire module (QLQ-PR25) was used to assess urinary, sexual, and bowel function. Reliability (r=0.85) and construct validity (Cronbach alpha >0.7) had been determined in pilot study with 41 patients. The test-retest reliability was satisfactory (Pearson r=0.61 to 0.93 for individual items and 0.85 for total score). The research team, several university faculty members, and a physician reviewed the pilot questionnaire to establish face validity and trustworthiness. The questionnaire was revised appropriately based on their feedback. Items were combined into several scales (from 1 to 100) according to EORTC rules. For the global health and function scales, a high score signaled a better QoL; for the symptom scales, a high score was indicative of a poorer QoL.

Text D

Curcumin Supplementation

Another issue which makes curcumin supplementation during radiation therapy an interesting possibility is the fact that any exposure to radiation raises concern about the possibility of a second malignancy. A population-based study of 17,845 prostate cancer patients, compared with secondary cancer incidence in patients treated with radical prostatectomy and radiotherapy. The results showed that the risk of rectal cancer, bladder cancer and lung cancer in patients treated with radiotherapy are significantly higher compared with those who underwent radical prostatectomy. Curcumin is a potent anticancer agent which suppresses all 3 stages of carcinogenesis: initiation, promotion, and progression and can be a promising anti-cancer treatment. There is a common concern that using antioxidants during radiotherapy may reduce the efficacy of treatment by protecting tumor cells from radiation-induced cell death. Despite controversies about the impacts of antioxidant supplementation during radiation therapy on its outcomes, some recent studies have reported promising effects.

In the present study MRI/MRS results and PSA levels of patients in CG and PG was not significantly differed, 3 months after intervention completion (0.12 ± 0.17 and 0.13 ± 0.06, respectively). Thus it seems that at least in short-term, curcumin does not have any unfavorable effect on treatment outcomes. Several in vitro studies have also proposed a radiosensitizing agent for curcumin by inhibition of radiation-induced elevation of growth factors, cytokines, cyclins, nuclear factor-κB and tumor necrosis factor-α on tumor cells and probably these mechanisms are blunting the radioprotective effects of curcumin in tumor cells. The study of molecular mechanisms of radioprotective effect of curcumin on normal tissues and its radiosensitization on tumor cells is on its way by the research team.

Questions 1-7

For each question, 1-7, decide which text (A, B, C or D) the information comes from. You may use any letter more than once.

In which text can you find information about;

1 More often doesn't create much effect on treatment result.

Answer _____

2 Talking about debarring categories.

Answer _____

3 The effectiveness of the curing agent.

Answer _____

4 It is requisite to decrease the severity of symptoms.

Answer _____

5 Poll for the purpose of identification of the disease conditions.

Answer _____

6 Patients after treatment might face other health problems.

Answer _____

7 Use of various biologically active compounds for treatment.

Answer _____

Questions 8-14

Answer each of the questions, 8-14, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

8 What is regarded as the best option for treating cancer?

Answer _____

9 What is the term that describes the side effects of a drug or other treatment that are serious enough to prevent the level of treatment?

Answer _____

10 What is the possible outcome of an exposure to radiation?

Answer _____

11 What protects the tumor cells from radiation-induced cell death during radiotherapy?

Answer _____

12 What a 'high score' may indicate?

Answer _____

13 Which clinical stages were not included with respect to disease study or treatment?

Answer _____

14 Has the research on effectiveness of curcumin been completed?

Answer _____

Questions 15-20

Complete each of the sentences, 15-20, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

15 A high score with respect to symptom scales is suggestive of a _____

16 _____ is reported to create more detrimental effects on patient's health.

17 _____ is a malignant tumour formed from glandular structures in epithelial tissue.

18 Radiation therapy with _____ are regarded to be the best option when it comes to treatment of cancer.

19 _____ is known to have the potential to create side effects when used for long period.

20 _____ has the power to make cancer cells more vulnerable to radiation therapy.

PART B

In this part of the test, there are six short extracts relating to the work of health professionals. For questions 1-6, choose the answer (A, B or C), which you think fits best according to the text.

1 The given notice talks about;

- Health campaigns carried out in the US;
- Health report;
- Current state of cardiovascular health in the United States.

Health Campaign US

The AHA developed a Health Campaign for Life's Simple, which emphasizes that adults and young people can live healthier lives by avoiding smoking and tobacco products, engaging in daily PA, eating a healthy diet, maintaining a healthy weight, and keeping cholesterol, BP, and glucose at healthy levels. New highlights from the cardiovascular health section include the following:

A recent meta-analysis of 9 prospective cohort studies involving US 12878 participants contributed new estimates of the importance of cardiovascular health metrics and risk for clinical events. The meta-analysis showed that achieving the greatest ideal cardiovascular health metrics was associated with a lower risk of stroke (relative risk, 0.31; 95% confidence interval [CI], 0.25–0.38), CVD (relative risk, 0.20; 95% CI, 0.11–0.37), cardiovascular mortality (relative risk, 0.25; 95% CI, 0.10–0.63), and all-cause mortality (relative risk, 0.55; 95% CI, 0.37–0.80).

2 The following notice provides information about;

- Tobacco as life killer.
- Smoking and tobacco use.
- Effects of tobacco on health of the US citizens.

Tobacco In US

In 2015, among adults ≥18 years of age, overall rates of tobacco use were estimated to be 15.2% (16.7% of males and 13.7% of females; National Health Interview Survey).

In the US, substantially higher tobacco use rates are found in low socioeconomic status, Native American, or transgender people reporting disability or activity limitations, as well as mentally ill populations. There also is substantial regional variation in the percentage of current smokers.

3 As per Federal PA Guidelines;

- More number of people have got accustomed to exercising.
- Physical inactivity has gone down.
- Physical activity is known to curtail down death rate.

Federal PA guidelines

The age-adjusted percentage of US adults (≥18 years) who met both the muscle-strengthening and aerobic guidelines increased from 14.3% in 1998 to 21.6% in 2015.

The percentage of US adults who met the aerobic guideline increased from 40.0% in 1998 to 49.8% in 2015.

In 2015, only 27.1% of high school students met activity recommendations of ≥60 minutes of PA on all 7 days of the week, and 14.3% of high school students reported that they were inactive on all of the previous 7 days.

PA (up to 75 minutes of brisk walking per week) were associated with reduced risk of mortality compared with participants who engaged in no PA.

A study of American adults reported that inadequate levels of aerobic PA (after adjustment for body mass index) were associated with an estimated 11.1% of aggregate healthcare expenditures.

4 The manual talks about;

- Safety procedures.
- Health hazards of mercury.
- Process of managing spilled or leaking mercury.

Common Occurrence - Management

If you discover a mercury spill, you should not attempt to clean up for yourself. Do not touch mercury with your bare hands or attempt to vacuum or clean up the spill. Leave the area in which there was a spill, taking the SP to a separate waiting area. Close the door to the area or room if possible. Immediately notify the MEC manager and NCHS staff; the MEC physician is trained in mercury spill procedures, and will clean the spill. Obtain replacement equipment.

5 The table talks about;

- Studies conducted on NAFLD.
- What is used in clinical trials?
- Noninvasive quantification of hepatic steatosis in NAFLD.

What studies suggest?

Some studies suggest that degree of steatosis may predict the severity of histological features (e.g., ballooning and SH) and the incidence and prevalence of diabetes in patients with NAFLD. MR imaging, either by spectroscopy or by proton density fat fraction, is an excellent noninvasive modality for quantifying HS and is being widely used in NAFLD clinical trials. The use of TE to obtain continuous attenuation parameters is a promising tool for quantifying hepatic fat in an ambulatory setting. However, the utility of noninvasively quantifying HS in patients with NAFLD in routine clinical care is limited.

6 What is correct?

- Obesity rate increased from 2011-2012
- Obesity rate increased from 2013-2014
- Obesity rate increased from 2003-2004

Overweight and Obesity

The prevalence of obesity among adults and youth in the UK significantly remained uncurtailed from 1999 to 2000 through 2013 to 2014. However, rate of enhancement ratio with respect to obesity prevalence began to level off and was not statistically significant for adults from the time period 2003 to 2004 through 2011 to 2012 and for youth from the time period 2003 to 2004 through 2013 to 2014.

Body mass index and waist circumference cut points in UK guidelines underestimate obesity and CVD risk in Asian and South Asian populations.

Definitions of "metabolically healthy obesity" vary, and over time, a substantial proportion of those with metabolically healthy obesity transition to metabolically unhealthy.

PART C

In this part of the test, there are two texts about different aspects of healthcare. For questions 7-22, choose the answer (A, B, C or D) which you think fits best according to the text.

Text 1: Exercise and reduction in coronary risks

There are a variety of mechanisms which may account for the protective effects of physical activity in reducing the risk of heart disease. First, physical activity can positively affect other major coronary risk factors. Exercise has been found to be useful in increasing high density lipoprotein cholesterol (HDLC), controlling mild and moderate hypertension, decreasing the risk of diabetes and reducing excess body weight. Higher levels of HDL-C are associated with lower coronary risk. Recent studies have reported significant increases in HDL-C (between 5% and 15%) following aerobic exercise training. These positive changes seem to be directly related to both the intensity of exercise and the total weekly energy expenditure. The benefits predominantly occur in individuals who expend at least 1,000 calories per week performing moderate to vigorous exercise.

High blood pressure increases coronary risk. Physical activity lowers blood pressure in individuals who are usually not being burdened down with augmented or piled up hypertension issues. A recent review of 25 long-term studies concluded that aerobic exercise training leads to reductions in systolic and diastolic blood pressure, averaging 10.8 mmHg and 8.2 mmHg respectively. These benefits are just as great, if not more so, with moderate intensity exercise as with high-intensity exercise.

Regular physical activity helps manage and even prevents non-insulin-dependent diabetes mellitus. Beneficial effects from regular exercise include an increased sensitivity of cells to insulin, reduced glucose production by the liver, and an increase in muscle cells, which pound for pound use more glucose than fat cells. In

addition, a recent study of the University of Pennsylvania suggests that exercise can decrease the risk of developing non-insulin dependent diabetes mellitus.

Excess weight increases coronary risk. Regular exercise increases daily caloric expenditure. In one study comparing dieting and exercise in overweight sedentary men, both interventions resulted in modest weight loss. In contrast to the dieting group, the exercise group did not have any loss of lean (i.e., muscle) weight. This preservation of lean body mass appears to be of significant benefit in patients attempting to lose weight since muscle tissue consumes calories, whereas fat tissue does not. The best approach to weight loss, therefore, appears to be a combination of moderate daily exercise (such as walking 4 km) and modest decreases in daily caloric intake (250 calories), which should lead to a weight loss of approximately one-half of a kilogram each week.

Although the exercise literature gives overwhelming support to the benefits of exercise, there is a darker side of it too, such as instances of people getting muscle and joint injuries. Sudden cardiac deaths are common too. In one study of male joggers, it was found that there was only one death per year among 15,620 seemingly healthy individuals. The rate of muscle and joint injuries among people who exercise on a recreational basis also is not very high. One study estimated that injuries requiring medical care occur at an annual rate of less than 5%. Therefore, exercise programs should be initiated gradually and supervised properly.

For the typical inactive individual, there are a number of steps that should be followed to minimize the risks of exercise. The first step is a medical checkup. An exercise stress test may be necessary if the patient appears to be at increased coronary risk. Guidelines developed by the American College of Sports Medicine state that seemingly healthy individuals can usually begin moderate exercise programs (i.e., activities within the patient's current capacity that can be sustained comfortably for a prolonged period), without exercise testing, as long as the patient starts gradually and is alert to the development of unusual signs or symptoms. Men over the age of 40, and women over the age of 50, should have a maximal exercise test before beginning a vigorous exercise program (i.e., activities intense enough to

represent a substantial challenge and result in significant increases in heart rate and respiration).

The exercise program should be tailored to a patient's needs and should also be designed to promote long-term compliance. The initial exercise program should be enjoyable and it should not be painful or unduly stressful. The proposed program must also be realistic in terms of the patient's current fitness level, lifestyle and time commitment. Accordingly, a successful exercise program should be flexible, easily accessible and not too expensive. For example, it is not realistic to recommend swimming for someone who is a weak swimmer or has limited access to a pool. Only programs which are crafted as per needs can provide immense benefits for the patients.

Text 1: Questions 7-14

7 According to paragraph 1, what is true about exercise?

- Exercise can reduce virtually all the risk levels associated with coronary diseases and others.
- Exercise may always enhance levels of HDLC.
- Energy expenditure is always helpful in fighting diseases.
- Aerobic exercises can increase HDLC levels effectively.

8 According to paragraph 2, exercise is good for;

- People with high BP
- People with low BP
- People with mild BP
- Not given

9 According to paragraph 3, exercise or any physical activity is reported to;

- Enhance quality of life for diabetic patients.
- To improve cellâ€™s functionality to absorb insulin.
- Can stop the occurrence of diabetes.
- A & B

10 According to paragraph 4, which one of the following statements is true?

- Dieting can be one of the best solutions to reduce weight.
- Exercise may decrease muscle weight.
- Eating less calories and rigorous exercise on a daily basis can lead to a reduction in weight.
- Walking 4 km is recommended to lose weight.

11 What does the fifth paragraph indicate?

- Risks associated with exercise
- Injuries and exercise
- Why exercise regimes should be supervised
- Not given

12 What does the sixth paragraph describe?

- How to gain more from exercising.
- Why an exercise regime should be followed.
- Exercise evaluation.
- The importance of an exercise test.

13 According to paragraph 6, it is recommended that;

- People should exercise under the supervision of an expert trainer.
- Aged people should not perform vigorous exercise.
- Any exercise program can be initiated without exercise testing.
- A & B

14 What information do we find in paragraph 7?

- Customized training programs.
- How exercise training programs should be.

- The importance of customizing exercise training programs.
- Which training programs can be helpful for patients

Text 2: Cerebral Aneurysm

An aneurysm is a weak area in a blood vessel that usually enlarges. It's often described as a "ballooning" of the blood vessel. About 1.5 to 5 percent of the general population has or will develop a cerebral aneurysm. About 3 to 5 million people in the United States have cerebral aneurysms, but most are not producing any symptoms. Between 0.5 and 3 percent of people with a brain aneurysm may suffer from bleeding.

People usually develop aneurysms after the age of 40. As they are, in many cases, said to be born with such fate. Aneurysms usually develop at branching points of arteries and are caused by constant pressure from blood flow. They often enlarge slowly and become weaker as they grow, just as a balloon becomes weaker as it stretches. Aneurysms may be associated with other types of blood vessel disorders, such as fibromuscular dysplasia, cerebral arteritis or arterial dissection, but these are very unusual. They may run in families, but people are rarely born with a predisposition for aneurysms. Some aneurysms are due to infections, drugs such as amphetamines and cocaine that damage the brain's blood vessels, or direct brain trauma from an accident.

An aneurysm is usually located along the major arteries deep within brain structures. When approaching an aneurysm during surgery, normal brain tissue must be carefully spread apart to expose it. Aneurysms can occur in the front part of the brain (anterior circulation) or the back part of the brain (posterior circulation). Special imaging tests can detect a brain aneurysm. Two noninvasive tests show the blood vessels in the brain. In the first test, called CTA (computed tomographic angiography), patients are placed on a table that slides into a CT scanner. A special contrast material (dye) is injected into a vein, and images are taken of the blood vessels to look for abnormalities such as an aneurysm. In the second test, called MRA (magnetic resonance angiography), patients are placed on a table that slides into a magnetic resonance scanner, and the blood vessels are

imaged to detect a cerebral aneurysm. Both of these screening tests detect most cerebral aneurysms larger than 3–5 mm (about 3/16 inch). There is also another test called a diagnostic cerebral angiogram, which gives more accurate results.

Bleeding is often a much-talked-about complication in aneurysms. High blood pressure is the leading cause of subarachnoid hemorrhage. Heavy lifting or straining can cause pressure to rise in the brain and may lead to an aneurysm rupture. (ii) Strong emotions, such as being upset or angry, can raise blood pressure and can subsequently cause aneurysms to rupture.

Many factors determine whether an aneurysm is likely to bleed. These include the size, shape and location of the aneurysm and symptoms that it causes. Smaller aneurysms that are uniform in size may be less likely to bleed than larger, irregularly shaped ones. Once an aneurysm has bled, there's a very high chance of re-bleeding. That's why we recommend treatment as soon as possible. On rupturing, it leaks blood into the space around the brain. This is called a "subarachnoid hemorrhage." Depending on the amount of blood, it can produce a sudden severe headache that can last from several hours to days.

Once an aneurysm bleeds, the chance of death is 30 to 40 percent and the chance of moderate to severe brain damage is 20 to 35 percent, even if the aneurysm is treated. Fifteen to 30 percent of patients have only mild difficulties or almost none. If the aneurysm isn't treated quickly enough, another bleed may occur from the already ruptured aneurysm. In 15 to 20 percent of patients, vasospasm (irritation by the leaked blood causing narrowing of the blood vessels) may occur. This can lead to further brain damage.

After blood enters the brain and the space around it, direct damage to the brain tissue and brain function results. The amount of damage is usually related to the amount of blood. Damage is due to the increased pressure and swelling from bleeding directly into the brain tissue, or from local cellular damage to brain tissue from irritation of blood in the space between the brain and the skull. Blood can also irritate and damage the normal blood vessels and cause vasospasm

(constriction). This can interrupt normal blood flow to the healthy brain tissue and can cause even more brain damage. This is called an "ischemic stroke."

Text 2: Questions 15-22

15 What paragraph 1 talks about?

- What is an aneurysm?
- Aneurysms in the US.
- Prevalence of aneurysms.
- What is an aneurysm and how does it affect someone?

16 Paragraph 2 deals with?

ng aneurysms.

- How do aneurysms form?
- When do aneurysms develop?

17 According to paragraph 2, which one of the following statements is not true?

- Often, people are born with aneurysms, but it is developed after the age of 40.
- Aneurysms usually develop in people who are 40 years of age or more.
- Aneurysms may pass on from one family to another family.
- Cocaine may develop aneurysms in people.

18 According to paragraph 3, which of the following is not correct about aneurysm testing?

- Pictures taken during the test are the primary source of the examination of aneurysms.
- Tests mentioned are efficient in detecting aneurysms larger than 3 to 5 mm. An aneurysm is hard to detect if it is less than 3 mm.
- A cerebral angiogram can be as effective as an MRA.

19 What is the central idea of the paragraph 4?

- How do aneurysms occur?
- What causes an aneurysm to bleed?
- Bleeding in aneurysms
- How does an aneurysm break?

20 What does paragraph 5 indicate?

- Factors that lead to bleeding
- What happens if an aneurysm bleeds?
- What are the chances that an unruptured aneurysm may bleed?
- B & C

21 According to paragraph 6, rapturing of an aneurysm is;

- Fatal
- Not always detrimental
- Fatal even if treated
- Brain-damaging and it is fatal

22 What paragraph 7 deal with?

- How aneurysms affect the brain?
- Brain damage is certain in an aneurysm - how?
- Why is the damage so extensive after the rupturing of an aneurysm?
- What is an ischemic stroke?