

READING 16

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

Autism Spectrum Disorder

Autism Spectrum Disorder (ASD) develops in early childhood. Recent population analysis indicates that the number of cases of ASD is increasing in many countries, particularly in technologically developed countries. The U.S. Center for Disease Control research claims that, in some states, one of every 68 children (one of 42 boys) has a diagnosis of the ASD, a 30% increase from 2012 (IACC Strategic Plan for Autism Spectrum Disorder Research, 2013).

Multiple dysfunctional reflex patterns are characteristic in two separate groups of children diagnosed with autism: 1) those whose patterns were immature or pathological and severely dysfunctional from birth, and 2) those that developed normally but regressed into autism at age 2 or 3 unexpectedly. Reflexes of these children may have been delayed and immature, but not noted by specialists or parents. Their nerve system, possibly, was not resilient enough to cope with the stress that they experienced. Alternatively, their reflexes might not have matured and have caused the asynchronicity in their brain function development on both cortical and extrapyramidal levels resulting in neurodevelopmental disorders beginning around 2 years of age. An initially mild unrecognized problem can lead to more complicated deficits with age.

Text B

Individuals diagnosed with ASD show a chronic lack of sensory motor integration and delay of skills concerning the early motor milestones. They show a wide range of immature reflex patterns such as Hands Pulling, Hands Supporting, Hands Grasp, Crawling, Asymmetrical Tonic Neck Reflex, Symmetrical Tonic Neck Reflex, Babkin Palmomentary, Ocular-Vestibular, and other patterns. The MNRI program utilizes non-invasive intervention to support the development of the neuro-sensory-motor aspects of those reflex patterns through specific techniques and procedures that allow restoration of links between reflex circuit components and the protection function of a reflex to normalize their over-freezing and fight or flight reactions seen, for example, in tactile defensiveness or deprivation. Thus, the MNRI program works particularly with the autonomic nervous system - its sympathetic and parasympathetic processes.

Text C

Disharmony in muscular system development and lack of regulation for muscle tone beginning in children with ASD in their infancy results in impulsive reactions that often turns into permanent physical characteristics and behaviors as they grow older. For example, impulsivity may lead to poor ability for goal setting, poor focus and following instructions, deficient inner control, hyperactivity, disorganized and chaotic behavior, and irritability and impatience. Lack of muscle tone regulation may later result in challenges in motor programming and control, planning, and thus lead to poor motor-cognitive-behavior coordination. This poor regulation is caused by a lack of balance in the excitation and inhibition processes in the reflex circuits, including improper connectivity between alpha and gamma motor neurons. Clinical observations show that the disharmony and lack of proper regulation in muscle tone in children with ASD are seen mainly in: Hypertonic muscles in the posterior dorsal plane of the body (along the spinal column - sacrospinalis, thoracic longus, trapezius) and with the opposite hypotonic abdominal muscles and diaphragm negatively affects development of postural control. The child with ASD, in an attempt to release tension caused by this disproportion of muscle tone in the back and front of their body, may often display reactivity in behavior and impulsive movements triggering balance/equilibrium mechanisms (balancing reflex pattern), resulting in a state of being overstimulated.

Text D

Problems in visual and auditory perception systems: The eyes of children diagnosed with ASD show a restless state or lack of mobility and dilated pupils. They usually have a limited, narrow visual span, poor visual attention and focus, and hyperactive peripheral vision. Their eye movements appear to freeze or jump rapidly in saccades. Many children with ASD demonstrate an addictive tendency for computers and cell phones with compulsive repetition of the same image, object, or program, often watching it at a very close range. The child with ASD becomes over-focused, which over-stimulates their vestibular system and static balance. The Pupillary Reflex in these children may become hypersensitive, over-stimulating the sympathetic system, with either over-reactive or hypoactive motor activity. The visual system of children diagnosed with ASD copes poorly with this visual chaos which leads to a visual processing disorder. A Bonding response in infants is seen from their first months after birth. Bonding as a behavior trait matures during their first years of life. Almost every child with ASD assessed presented signs of inadequate bonding - lack of attachment, tactile and interactivity defensiveness, a tendency for self-isolation, a poor imitation, and poor learning of verbal communication. When bonding is immature, there are problems with visual contact, focusing on the face/eyes of their mother and other adults and poor emotional communication, inability to adequately smile, and poor labeling of the objects in their environment.

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. Represents the resistance to passive movement of a joint.

Answer _____

2. Associated with pupillary function.

Answer _____

3. Utilization of information and clinical experience from neurodevelopment in different ways.

Answer _____

4. Development of autism.

Answer _____

5. Possibility of development of strange characteristics as one grows.

Answer _____

6. Not existing or occurring at the same time with respect to movements or reactions.

Answer _____

7. Primitive reflex that normally emerges during the first year of an infant's life.

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 MNRI will operate with?

Answer _____

9. How eye movements may appear?

Answer _____

10. What is the term which defines activation of the vestibular system which causes eye movement?

Answer _____

11 ..What is related to tendency to act on a whim, displaying behavior characterized by little or no forethought, reflection?

Answer _____

12. What is the term used to define healthy stress?

Answer_____

13. What is known to be activated as a result of turning the head to one side?

Answer_____

14. What is the impact visual chaos of the children with ASD?

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. The term _____ is used to describe a rapid movement of the eye between fixation points.

16. Generally, _____ in newly born babies will be at very early stages.

17. What synchronizes hands, neck, and jaw is _____

18. In many of the cases, reflex in affected children may turn out to be more _____ .

19. Almost all of the children with ASD show various signs of _____ .

20 .The complexities in _____ can be the result of the regulation changes in muscle tone.

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 What this notice talks about?

AIDS-related deaths dropped by more than 50%

AIDS-related deaths increased more significantly

Efforts that can lead to curbing AIDS in various countries.

UNAIDS Programme Coordinating Board

The 31st UNAIDS Programme Coordinating Board (PCB) meeting took place in Geneva from 11-13 June 2018. There were more than 700 000 less new HIV infections estimated globally in 2016 than in 2001. The road from 2.5 million new HIV infections in 2011 to zero new HIV infections is a long one and significant efforts are required to accelerate HIV prevention programmes. Sustained investments for access to antiretroviral therapy by donors and national governments have led to record numbers of lives being saved in the past six years. In 2011 more than half a million fewer people died from AIDS-related illnesses than six years earlier. It's a dramatic turning point. Numbers can quantify, but alone cannot express the impact of each averted death on the whole community, including its children. The number of people dying from AIDS-related causes began to decline in the mid-2000s because of scaled up antiretroviral therapy and the steady decline in HIV incidence since the peak of the epidemic in 1997. In 2011, this decline continued, with evidence showing that the drop in the number of people dying from AIDS-related causes is accelerating in several countries.

2 The given notice explains the procedure of;

Use of radix Sophorae samples.

Ultrasonic treatment - obtaining radix.

Preparing radix Sophorae tonkinensis samples.

Radix Sophorae tonkinensis

Radix Sophorae tonkinensis was crushed and screened, then taking screened powder (approximately 0.5 g) gain a respective weight, denoted M.

Trichloromethane-methanol-ammonia (40:10:1) was used to dispose of the radix Sophorae tonkinensis samples for 30 min, and all samples were subsequently obtained from organic solvent extraction with 30 min ultrasonic treatment. All disposed of samples were filtered, then 10 mL of filtrate was measured to recover solvents to dry under decompression at 38°C to obtain the residue, the residue was diluted by methanol, then transferred to a 10 mL volumetric flask. After mixing and filtering with 0.45 µm filter membrane, Radix Sophorae samples were obtained. The blank groups were treated as the samples but without radix Sophorae tonkinensis.

3 What is correct about Torcetrapib?

It is known to enhance health.

Trials performed produced negative results.

The drug didn't get approved completely as the project was dropped in the middle.

Short note on Torcetrapib

Torcetrapib, which has been in development since the early 1990s, was supposed to raise so-called good cholesterol, and cardiologists had hoped it would reduce the buildup of plaques in blood vessels that can cause heart attacks. This drug actually caused an increase in deaths and heart problems. Eighty-two people had died so far in a clinical trial, versus 51 people in the same trial who had not taken it. The GABR company gave up the project incurring a claimed loss of \$1 billion investment and not much hue and cry was raised on the deaths of the study-subjects as this was the doing of a billionaire giant manufacturer. In case of trials or experiments, if a single death is noticed with the use of UD, a big hue and cry would be raised.

4 The table shows

Comparison of Type A, B, C and G and H drugs and their resistance quality.

Type A is known to produce more adverse reactions than all the others present in the table.

A total of 200 cases have been reported with respect to adverse reaction.

Drug Adverse Reactions

Type of ADR	Number ADRS	Percentage (%)
Type-A	96	103.7
Type-B	69	56.79
Type-C	23	28.39
Type G	8	7.4
Type H	4	3.7
Total	200	200

5 The notice clearly explains

Clinical trials using Vitamin B12.

Advantages of B12.

Study performed with focus on B12 usage.

Vitamin B12

Vitamin B12 is produced by the liver and is involved in several biochemical metabolic reactions. It promotes the repair of damaged skin mucous membranes and vascular endothelial cells, reduces spasm and occlusion of blood vessels, improves local blood flow and prevents the deterioration of wound infection. In addition, it reduces the excitability of pain fibres C and AG, leading to an analgesic effect. Vitamin B12 injections to the skin in the radiation field benefit the wound by reducing irritation and pain, preventing rupture and enhancing new epithelial resistance to radiation, thereby promoting healing of the skin. Chen et al used a vitamin B12 solution to treat radiation-induced moist dermatitis. The cure rate at 10 days was 100%, which was significantly different from the control group.

6 What is correct about the given table?

The age wise male patients population ranges from 4.

18.18 patients were in the age group of 50-70 years.

32.72 patients were in the age group of 50-60 years.

Age wise distribution of male patients showing percentage of distribution.

Age in years	Male patients	Age in years	Female patients
20-30	4 (7.27)	20-30	0 (0)
30-40	54 (98.18)	30-40	32 (71.11)
40-50	24 (43.63)	40-50	38
50-60	18	50-60	10
60-70	10	60-70	6 (13.32)
Total	110 (110)	70-80	4 (8.88)
		Total	90 (9)

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: Ebola Virus and Marburg Virus

The Ebola virus and Marburg virus are related viruses that cause hemorrhagic fevers; illnesses marked by severe bleeding (hemorrhage), organ failure and, in many cases, death. Both the Ebola virus and Marburg virus are native to Africa, where sporadic outbreaks have occurred for decades. The Ebola virus and Marburg virus both live in animal hosts, and humans can contract the viruses from infected animals. After the initial transmission, the viruses can spread from person to person through contact with bodily fluids or contaminated needles.

No drug has been approved to treat the Ebola virus or Marburg virus. People diagnosed with the Ebola or Marburg virus receive supportive care and treatment for complications. Scientists are coming closer to developing vaccines for these deadly diseases. In both the Ebola virus and Marburg virus, signs and symptoms typically begin abruptly within the first five to 10 days of infection. Early signs and symptoms include fever, severe headaches, joint and muscle aches, chills, sore throat and weakness. Over time, symptoms become increasingly severe and may include nausea and vomiting, diarrhea (may be bloody), red eyes, raised rash, chest pain and coughing, stomach pain, severe weight loss, bleeding from the nose, mouth, rectum, eyes and ears.

The Ebola virus has been found in African monkeys, chimps and other nonhuman primates. A milder strain of Ebola has been discovered in monkeys and pigs in the Philippines. The Marburg virus has been found in monkeys, chimps and fruit bats in Africa. The virus can be transmitted to humans by exposure to an infected animal's bodily fluids, including blood. Butchering or eating infected animals can spread the viruses; scientists who have operated on infected animals as part of their research have also contracted the virus. Infected people typically don't become

contagious until they develop symptoms. Family members are often infected as they care for sick relatives or prepare the dead for burial.

Medical personnel can be infected if they don't use protective gear such as surgical masks and latex gloves. Medical centers in Africa are often so poor that they must reuse needles and syringes and some of the worst Ebola epidemics have occurred because contaminated injection equipment wasn't sterilized between uses. There's no evidence that the Ebola virus or Marburg virus can be spread via insect bites. Ebola and Marburg hemorrhagic fevers are difficult to diagnose because many of the early signs and symptoms resemble those of other infectious diseases, such as typhoid and malaria. But if doctors suspect that you have been exposed to the Ebola virus or Marburg virus, they use laboratory tests that can identify the viruses within a few days.

Most people with Ebola or Marburg hemorrhagic fever have high concentrations of the virus in their blood. Blood tests known as enzyme-linked immunosorbent assay (ELISA) and reverse transcriptase polymerase chain reaction (PCR) can detect specific genes or the virus or antibodies to them. No antiviral medications have proved effective in treating the Ebola virus or Marburg virus infections. As a result, treatment consists of supportive hospital care; this includes providing fluids, maintaining adequate blood pressure, replacing blood loss and treating any other infections that develop.

As with other infectious diseases, one of the most important preventive measures for the Ebola virus and Marburg virus is frequent hand-washing. Use soap and water, or use alcohol-based hand rubs containing at least 60 percent alcohol when soap and water aren't available. In developing countries, wild animals, including nonhuman primates, are sold in local markets; avoid buying or eating any of these animals. In particular, caregivers should avoid contact with the person's bodily fluids and tissues, including blood, semen, vaginal secretions and saliva. People with Ebola or Marburg are most contagious during the later stages of the disease. If you're a healthcare worker, wear protective clothing — such as gloves, masks, gowns and eye shields - keep infected people isolated from others. Carefully disinfect and dispose of needles and other instruments; injection needles and

syringes should not be reused. Scientists are working on a variety of vaccines that would protect people from Ebola or Marburg viruses. Some of the results have been promising, but further testing is needed.

Text 1: Questions 7-14

7 The Ebola and Marburg Viruses are native to;

America

Japan

Africa

China

8 What is right about Ebola and Marburg viruses?

Spread from person to person only.

Spread from animals to humans.

Spread from animals to animals.

Spread person to person after initial transmission from the infected animals.

9 Symptoms are typically seen within;

Five days

Ten days

Five to seven days

Five to ten days

10 In the Philippines, Ebola was discovered in;

Chimpanzees
Human primates
Non-human primates
Monkeys

11 Most known Ebola diseases occur due to;

Contamination
Bodily fluids
Contaminated needles and syringes
None

12 People with hemorrhagic fever show;

High number of viruses in their blood
Low concentrations of virus
High concentrations of antibodies
Low concentrations of antibodies

13 Pick one of the best preventive measures stated in the passage here;

Hand cleaning with medicinal soap.
Use of alcohol-based hand rubs, containing at least 60% alcohol, in absence of water & soap.
Only use of soap.
Avoiding direct contact with patients is a necessity.

14 As a healthcare worker, you should;

Keep infected people totally isolated from others.
Not reuse needles and syringes for the second time.
Wear clothing such as gowns and eye shields.
none of the above

Text 2: A Chronic Disease - Atopic Dermatitis

Atopic dermatitis is a common chronic skin disease. It is also called atopic eczema. Atopic is a term used to describe allergic conditions such as asthma and hay fever. Both dermatitis and eczema mean inflammation of the skin. People with atopic dermatitis tend to have dry, itchy and easily irritated skin. They may have times when their skin is clear and other times when they have rash. In infants and small children, the rash is often present on the skin around the knees and elbows and the cheeks. In teenagers and adults, the rash is often present in the creases of the wrists, elbows, knees or ankles, and on the face or neck.

Atopic dermatitis usually begins and ends during childhood, but some people continue to have the disease into adulthood. If you have ever had atopic dermatitis, you may have trouble with one or more of these: dry, sensitive skin, hand dermatitis and skin infections. The exact cause of atopic dermatitis is unknown. Research suggests that atopic dermatitis and other atopic diseases are genetically determined; this means that you are more likely to have atopic dermatitis, food allergies, asthma and/or hay fever if your parents or other family members have ever had atopic dermatitis. These diseases may develop one after another over a period of years. This is called the “atopic march”.

Knowing that a child with a slight wheeze has had a history of atopic dermatitis, for example makes it easier to diagnose the subtle onset of asthma. There are many things that make the itching and rash of atopic dermatitis worse. When you learn more about atopic dermatitis and how to avoid things that make it worse, you may be able to lead a healthier life.

If you have a reaction to something you touch, breathe or eat, you might have an allergy. Allergies can trigger or worsen your atopic dermatitis symptoms. Common causes of allergy are: dust mites, furry and feathered animals, cockroaches, pollen, mold, foods, chemicals. Your healthcare provider may recommend allergy testing and food challenges to see if allergies worsen itching or rashes. Allergy testing may include skin testing, blood tests or patch tests. Many measures can be taken to avoid things to which you are allergic. Although many of the measures can be done

for the entire home, the bedroom is the most important room to make skin friendly. Talking with healthcare provider about what measures you can take to avoid your allergens can be very beneficial.

Food allergies may be the cause of itching or rashes that occur immediately after eating, especially in children. Some common food allergens include milk, eggs, peanuts, wheat, nuts, soy and seafood. Most people are allergic to only one, two or at the most three foods. Be aware that diet restrictions can lead to poor nutrition and growth delay in babies and children. Talk with your healthcare provider about maintaining a well-balanced diet.

Emotions and stress do not cause atopic dermatitis, but they may bring on itching and scratching. Anger, frustration and embarrassment can cause flushing and itching. Day to day stresses as well as major stressful events can lead to or worsen the itch-scratch cycle. The medications used in atopic dermatitis include topical steroids, topical immunomodulators, tar products, anti-infectives and antihistamines. Steroid medicines that are applied to the skin are called topical steroids. Topical steroids are drugs that fight inflammation; they are very helpful when a rash is not well controlled. Topical steroids are available in many forms such as ointments, creams, lotions and gels. It is important to know that topical steroids are made in low to super potent strengths. Steroid pills or liquids, like prednisone, should be avoided because of side effects and because the rash often comes back after they are stopped.

Text 2: Questions 15-22

15 People with atopic dermatitis suffer from;

Hay fever

Asthma

Dry, itchy and irritated skin

Rashes

16 In small children, a rash is seen;

- Around elbows
- On the face
- On the neck
- Around the knees

17 People with atopic dermatitis have;

- Dry skin
- Skin infections
- Hand dermatitis
- All of the above

18 The term atopic refers to;

- Allergic diseases
- Asthma and hay fever.
- Allergic conditions like hay fever.
- Allergic conditions like asthma.

19 _____ can worsen dermatitis symptoms;

- Allergies
- Pollen
- Dust
- Mold

20 According to the information given in the passage, avoiding allergens is;

- Easy
- Difficult
- Sometimes easy and sometimes difficult
- Can't say

21 "Allergic conditions like asthma in patients who have had a history of atopic dermatitis can be easily diagnosed by health professionals," this statement is;

Out of the paragraphs given

False

True

Can be true or can be false

22 Topical steroids are available in these forms:

Gel tubes

Ointments

Lotions

Ointments, creams, lotions and gels.