Entrance Examination

Faculties: Pharmacy - Medicine – Dentistry - Health Sciences

General Instructions

1- The First Page of the booklet is the answer sheet. Fold this page along the perforations, slowly and carefully tear off the answer sheet.

2- Write your name and your seat number then fill the seat number in the proper place on the answer sheet.

3- Be sure to fill only one answer with a pencil for each question.
1) Dry ice (carbon dioxide) changes from a solid to a gas at −78.5°C. What is this temperature in °F?
   A) −173°F
   B) −12.6°F
   C) −109°F
   D) −75.6°F

2) What mass of Li₃PO₄ is needed to prepare 500 mL of a solution having a lithium ion concentration of 0.175 M?
   A) 6.75 g
   B) 10.1 g
   C) 30.4 g
   D) 3.38 g

3) When 38.0 mL of 0.1250 M H₂SO₄ is added to 100. mL of a solution of PbI₂, a precipitate of PbSO₄ forms. The PbSO₄ is then filtered from the solution, dried, and weighed. If the recovered PbSO₄ is found to have a mass of 0.0471 g, what was the concentration of iodide ions in the original solution?
   A) 3.10 × 10⁻⁴ M
   B) 1.55 × 10⁻⁴ M
   C) 6.20 × 10⁻³ M
   D) 3.11 × 10⁻³ M

4) A sample of a gas occupies 1.40 × 10³ mL at 25°C and 760 mmHg. What volume will it occupy at the same temperature and 380 mmHg?
   A) 2,800 mL
   B) 2,100 mL
   C) 1,400 mL
   D) 1,050 mL

5) How many molecules of N₂ gas can be present in a 2.5 L flask at 50°C and 650 mmHg?
   A) 2.1 × 10⁻²³ molecules
   B) 4.9 × 10⁻²² molecules
   C) 3.1 × 10⁻²² molecules
   D) 3.6 × 10⁻²⁵ molecules

6) How many liters of chlorine gas at 650 mmHg and 25°C can be produced by the reaction of 2.00 L of 2.50 M HCl solution with excess MnO₂?

   \[
   \text{MnO}_2(s) + 4\text{HCl}(aq) \rightarrow \text{MnCl}_2(aq) + 2\text{H}_2\text{O}(l) + \text{Cl}_2(g)
   \]
   A) 1.25 L
   B) 24.2 L
   C) 35.7 L
   D) 88.6 L
7) It takes 42.0 min for the concentration of a reactant in a first-order reaction to drop from 0.45 M to 0.32 M at 25°C. How long will it take for the reaction to be 90% complete?
   A) 13.0 min
   B) 86.0 min
   C) 137 min
   D) 284 min

8) Nitric oxide gas (NO) reacts with chlorine gas according to the following equation:
   \[ \text{NO} + \frac{1}{2}\text{Cl}_2 \rightarrow \text{NOCl} \]

   The following initial rates of reaction have been measured for the given reagent concentrations.

<table>
<thead>
<tr>
<th>Expt.#</th>
<th>Rate (M/hr)</th>
<th>NO (M)</th>
<th>Cl$_2$ (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.19</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>2</td>
<td>4.79</td>
<td>1.00</td>
<td>0.50</td>
</tr>
<tr>
<td>3</td>
<td>9.59</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

   Which of the following is the rate law (rate equation) for this reaction?
   A) rate = $k[\text{NO}]$
   B) rate = $k[\text{NO}][\text{Cl}_2]^{1/2}$
   C) rate = $k[\text{NO}][\text{Cl}_2]$
   D) rate = $k[\text{NO}]^2[\text{Cl}_2]$

9) A certain first-order reaction $A \rightarrow B$ is 25% complete in 42 min at 25°C. What is its rate constant?
   A) $6.8 \times 10^{-3} \text{ min}^{-1}$
   B) $8.3 \times 10^{-3} \text{ min}^{-1}$
   C) $3.3 \times 10^{-2} \text{ min}^{-1}$
   D) $-3.3 \times 10^{-2} \text{ min}^{-1}$

10) Given that $E_a$ for a certain biological reaction is 48 kJ/mol and that the rate constant is $2.5 \times 10^{-2} \text{ s}^{-1}$ at 15°C, what is the rate constant at 37°C?
   A) $2.7 \times 10^{-2} \text{ s}^{-1}$
   B) $2.5 \times 10^{-1} \text{ s}^{-1}$
   C) $1.0 \times 10^{-1} \text{ s}^{-1}$
   D) $6.0 \times 10^{-3} \text{ s}^{-1}$

11) Calculate the pH of a buffer solution that contains 0.25 M benzoic acid ($C_6H_5CO_2H$) and 0.15 M sodium benzoate ($C_6H_5COONa$). [$K_a = 6.5 \times 10^{-5}$ for benzoic acid]
   A) 4.83
   B) 3.40
   C) 4.41
   D) 3.97
12) 50.00 mL of 0.10 M HNO₂ (nitrous acid, \( Ka = 4.5 \times 10^{-4} \)) is titrated with a 0.10 M KOH solution. After 25.00 mL of the KOH solution is added, the pH in the titration flask will be
A) 2.17
B) 3.35
C) 2.41
D) 1.48

13) The systematic name for the compound represented below is

\[
\begin{align*}
\text{CH₂–CH₃} \\
\text{CH₃–CH₂–CH₂–CH–CH–CH₂} \\
\text{CH₂} \\
\text{CH₂–CH₃}
\end{align*}
\]

A) 4,5-diethylheptane
B) 3-propyl-4-ethylhexane
C) 3-ethyl-4-propylhexane
D) 3-methyl-4-propylheptane

14) Polyaacrylonitrile, characterized by the repeating unit shown below, is made from which of these monomers?

\[
\begin{align*}
\text{CH₂} & \quad \text{CH} \\
\text{CN}
\end{align*}
\]

A) CH₃CH₂CN
B) HOCH₂CH₂CH₂
C) CH₃CH=CHCN
D) CH₂=CHCN

15) Consider the following equilibrium system:

\[
2\text{PbS (s)} \quad + \quad 3\text{O}_2 \quad (g) \quad \rightleftharpoons \quad 2\text{PbO (s)} \quad + \quad 2\text{SO}_2 \quad (g)
\]

Predict the direction of the net reaction as a result of increasing pressure on the system at constant temperature.

A) The net reaction will shift toward the reactants
B) The net reaction will shift toward the product
C) Increasing the pressure has no effect on the equilibrium
D) Information is not enough to make a prediction
16) Ammonium carbamate, $\text{NH}_4\text{CO}_2\text{NH}_2$, decomposes as follows:

$$\text{NH}_4\text{CO}_2\text{NH}_2 (s) \rightleftharpoons 2\text{NH}_3 (g) + \text{CO}_2 (g)$$

Starting with only the solid, it is found that at $40^\circ\text{C}$ the total gas pressure is 0.363 atm. Calculate the equilibrium constant $K_p$.

A) $29.3 \times 10^{-3}$  
B) 0.242  
C) $7.09 \times 10^{-3}$  
D) $29.3 \times 10^{-2}$

17) Consider the weak bases below and their $K_b$ values:

$$\begin{align*}
\text{C}_6\text{H}_5\text{O}^- & : K_b = 1.3 \times 10^{-10} \\
\text{C}_2\text{H}_5\text{NH}_2^- & : K_b = 5.6 \times 10^{-4} \\
\text{C}_6\text{H}_5\text{N}^- & : K_b = 1.7 \times 10^{-9}
\end{align*}$$

Arrange the conjugate acids of these weak bases in order of increasing acid strength.

A) $\text{C}_6\text{H}_5\text{NH}_2^+ < \text{C}_6\text{H}_5\text{OH} < \text{C}_2\text{H}_5\text{NH}$  
B) $\text{C}_6\text{H}_5\text{OH} < \text{C}_6\text{H}_5\text{NH}_2^+ < \text{C}_2\text{H}_5\text{NH}$  
C) $\text{C}_6\text{H}_5\text{NH}_2^+ < \text{C}_2\text{H}_5\text{NH}_3^+ < \text{C}_6\text{H}_5\text{OH}$  
D) $\text{C}_2\text{H}_5\text{NH}_3^+ < \text{C}_6\text{H}_5\text{NH}_2^+ < \text{C}_6\text{H}_5\text{OH}$

18) Identify compound (C) in the following synthetic scheme:

```
\[
\begin{align*}
\text{C}_2\text{H}_5\text{CHO} & \xrightarrow{\text{H}_2 (g) \text{ Ni}} (A) \\
\text{C}_6\text{H}_5\text{CH}_2\text{OH} & \xrightarrow{\text{K}_2\text{Cr}_2\text{O}_7 \text{ excess} \text{ H}^+} (B) \\
\hline
\end{align*}
\]
```

a. $\text{C}_6\text{H}_5\text{CH} \equiv \text{CHC}_2\text{H}_5$  

b. $\text{C}_6\text{H}_5\text{CH}_2 \equiv \text{CHC}_2\text{H}_5 \quad \text{c.} \quad \text{O} \quad \text{d.} \quad \text{C}_6\text{H}_5\text{OC} \equiv \text{CH}_2\text{CH}_2\text{CH}_3$

```
\[
\begin{align*}
\text{C}_6\text{H}_5\text{CH} \equiv \text{CHC}_2\text{H}_5 & \quad \text{c.} \quad \text{O} \\
\text{C}_6\text{H}_5\text{C} \equiv \text{OCH}_2\text{CH}_2\text{CH}_3 & \quad \text{d.} \quad \text{C}_6\text{H}_5\text{OC} \equiv \text{CH}_2\text{CH}_2\text{CH}_3
\end{align*}
\]
```
19) In an attempt to identify the class of an alcohol, the following scheme was carried and the observations were recorded:

Alcohol  \rightarrow \text{Yellow-Orange precipitate}  \rightarrow \text{Brick-red precipitate}
1. Mild oxidation  
2. Test by DNP

A) The alcohol under test is primary  
B) The alcohol under test is secondary  
C) The alcohol under test is tertiary  
D) More tests are needed to confirm the class of the alcohol

20) The product of the following series of chemical transformations is:

\[
\begin{align*}
\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH} & \xrightarrow{1. \text{SOCl}_2} \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl} \\
& \xrightarrow{2. \text{NaOCl}_2 \text{H}_2, \text{heat}} \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH} \\
& \xrightarrow{3. \text{H}_2\text{O/}\text{H}^+} \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{COOH} \\
& \xrightarrow{4. \text{K}_2\text{Cr}_2\text{O}_7, \text{H}_2\text{SO}_4} \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{COOH}
\end{align*}
\]

a. \[
\text{CH}_3\text{CH}_2\text{CH}_2\text{CH} \quad \overset{\text{O}}{\longrightarrow} \quad \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3
\]

b. \[
\text{CH}_3\text{CH}_2\text{CH}_2\text{COH} \quad \overset{\text{O}}{\longrightarrow} \quad \text{CH}_3\text{CH}_2\text{CH}_2\text{CCH}_3
\]

c. \[
\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3
\]

d. \[
\text{CH}_3\text{CH}_2\text{CCH}_3
\]

21) Progesterone's function in contraception is by:
A) increasing the frequency of ovulation.  
B) thickening the cervical and uterine mucus to impair sperm movement.  
C) increasing gonadotropin secretion to abnormally high levels.  
D) reducing libido.

22) Which of the following hormones stimulates liver glycogenolysis, gluconeogenesis, and fat breakdown?
A) insulin  
B) thyroid hormone  
C) ACTH  
D) glucagon

23) Which central organ regulates glycemia:
A) Muscles  
B) Liver  
C) Adipose tissue  
D) Brain
24) Which of the following statements concerning the nervous regulation of the circulation is correct?
   A) The baroreceptors are mainly responsible for the long-term regulation of systemic blood pressure.
   B) If the arterial pressure suddenly falls the baroreceptor reflex increases the heart rate.
   C) The baroreceptors are found in the aortic and carotid bodies.
   D) The coronary blood flow is regulated by the cardiac volume receptors.

25) Acetylcholine released by parasympathetic nerves causes:
   A) Decrease in cardiac rate
   B) Decrease arterial blood pressure
   C) Relaxes blood vessels
   D) All of the above

26) Another name for innate immunity:
   A) Is immunity
   B) Is explicit immunity
   C) Is specific immunity.
   D) Is non-specific immunity.

27) All of the following are functions of the endocrine system except:
   A) Regulate blood calcium levels
   B) Regulate the heart rate
   C) Control the water balance of the body
   D) Regulate body temperature

28) The human genome is minimally contained in which of the following?
   A) Every human cell
   B) Each human chromosome
   C) The entire human population
   D) Each human gene

29) AIDS is such a deadly disease because the AIDS virus attacks and destroys
   A) CD4+ T cells
   B) CD8+ T cells
   C) macrophages
   D) memory cells

30) How many elements is the somatic reflex arc composed of?
   A) 3
   B) 4
   C) 5
   D) 6
31) Your body has millions of different antibodies for detecting millions of different antigens because
     A) you have millions of different antibody genes
     B) antibody genes undergo somatic rearrangement and somatic mutation
     C) antibody genes undergo antigen shifting
     D) all of the above

32) Which of the following crosses would always result in offspring that only display the dominant phenotype?
     A) TT x tt
     B) Tt x Tt
     C) Tt x Tt
     D) both TT x tt and TT x TT

33) In a Mendelian monohybrid cross, which generation is always completely heterozygous?
     A) F1 generation
     B) F2 generation
     C) F3 generation
     D) P generation

34) In 1940, two researchers named Weiner and Landsteiner discovered that about 85 percent of the human population sampled possessed a blood cell protein that had been previously detected in Rhesus monkeys. This blood type was labeled Rh positive, and Rh+ was found to be dominant over the absence of the blood factor (Rh). Under normal Mendelian inheritance, which of the following statements is FALSE?
     A) Two Rh+ parents could have an Rh- child.
     B) Two Rh- parents could have an Rh+ child.
     C) An Rh- child would require that both parents be carriers of at least one Rh- gene.
     D) It is possible with just one pair of parents to have children where some siblings are Rh- and some are Rh+.

35) If the probability of event A is 3/4 and the probability of event B is 1/4, then the probability of both A and B occurring at the same time is
     A) 3/4.
     B) 1 or absolute certainty.
     C) 1/2.
     D) 3/16.
36) Use the following diagram to answer the next three questions:

![Family Tree Diagram]

According to the pedigree diagrammed above the original parents of this family tree had:

A) 3 daughters and 2 sons  
B) 2 daughters and 3 sons  
C) 2 daughters and 1 son  
D) 1 daughter and 2 sons

37) Cystic fibrosis shows autosomal recessive inheritance with an incidence of 1 in 2500. The unaffected brother of an affected girl is referred for genetic counseling. Assume that the population is in Hardy-Weinberg equilibrium. Which of the following is correct?
A) The probability that the brother is a carrier is 1/2.  
B) If the brother has a child with a healthy unrelated partner the probability that the child will be affected is 1 in 150.  
C) If the brother has a child with his first cousin the probability that the child will be affected is 1 in 12.  
D) If the affected sister has a child with her first cousin the probability that the child will be affected is 1 in 4.

38) Most multicellular eukaryotes form gametes by
A) Meiosis  
B) Oncogenesis  
C) Mitosis  
D) Binary fission

39) Sexual reproduction favors
A) Genetic stability  
B) Highly successful species  
C) Beneficial recombination  
D) Genetic diversity
40) The LAST step in the Menstrual Cycle is:
   A) The lining of the uterus is broken down and disintegrates
   B) The zygote implanting itself in the wall of the uterus
   C) The release of an egg from the ovary
   D) The ovum (egg) entering the uterus

41) Antibiotics are subscribed to:
   A) Treat viral infection
   B) Treat bacterial infection
   C) Kill pain
   D) Help digestion

42) Inspired air is cleaned in:
   A) Larynx
   B) Trachea
   C) Lungs
   D) Nose

43) The human heart has:
   A) One Atria and one Ventricle
   B) Two atria and 2 Ventricles
   C) One Atria and 2 Ventricles
   D) Two Atria and one Ventricle

44) ......................... gives a rapid effect of drug action
   A) Intramuscular injection
   B) Intravenous injection
   C) Intradermal injection
   D) Subcutaneous injection

45) “Shake well before use” is one of the appropriate instructions given to patients using
   A) Alcohol for hand disinfection
   B) Suspension-based antibiotic preparation
   C) Mouth washing solutions
   D) Shampoos

46) A 2.0 kg mass attached to a spring whose force constant is 10.0 N/m is undergoing simple harmonic motion. If the initial displacement of the mass is 3.0 cm, the maximum potential energy of the system is
   A) 2.5 J
   B) 150 mJ
   C) 4.5 mJ
   D) Zero.
47) The adjustable single loop positioned in the plane of the page is placed in a magnetic field \( B = 1.5 \, \text{T} \) pointing out of page. When the cross-sectional area of the loop is reduced from 0.50 m\(^2\) to 0.35 m\(^2\) in 0.30 s, the average emf induced in the coil is
   A) 75 V
   B) 30 V
   C) 23 V
   D) 0.75 V

48) A series RL circuit with inductance 6.0 mH and Resistance 20 Ohm is connected to a 12.0 V battery of negligible internal resistance. The current in the circuit 4.0 \( \mu \text{s} \) after the switch is closed is
   A) 1.0 mA
   B) 4.0 mA
   C) 7.9 mA
   D) 0.4 A

49) In a simple RC circuit with sinusoidal driving voltage, the phase relationship for a capacitor is that the
   A) Current leads the voltage by 90\(^\circ\)
   B) Voltage leads the current by 90\(^\circ\)
   C) Voltage and current are in phase.
   D) None of the above.

50) A monochromatic source produces light at a wavelength of 510 nm in air. The wave then passes through water that has an index of refraction of 1.32. The velocity of propagation of the wave in the water is
   A) 2.27\( \times 10^8 \) m/s
   B) 3.96\( \times 10^8 \) m/s
   C) 2.96\( \times 10^8 \) m/s
   D) 3.00\( \times 10^8 \) m/s

51) The graph shows the charges made by a printing company for making various numbers of posters.

Which of the following pricing structures would give the graph shown?
   A) $30 per poster
   B) $50 set-up charge + $20 per poster
   C) $40 per poster for the first four, any extra $20 each
   D) $30 set-up charge, $30 per poster for the first four, any extra $20 each
52) Children in Australia and New Zealand, for example, spend a lot of time outdoors and consequently the sporting talent of youngsters in these countries outstrips that of British children. Due to this, and because of the other advantages derived from being outdoors, the Government should discourage the use of computer games and television for youngsters.

Which of the following best summarizes the conclusion of the argument above?

A) Children should spend more time outdoors
B) Parents need to encourage their children to engage in more sporting activities than they do currently
C) Our Government should model itself on that of Australia or New Zealand
D) The Government needs to intervene to change the habits of youngsters

53) The chart shows the employment status of male and female adults in country X. A person is employed if they are in full-time or part-time employment or if they are self-employed.

The difference between the percentage of men in employment and women in employment is:

A) 8.8
B) 14.8
C) 15.9
D) 27.0
54) The diagram shows a square piece of paper with identical semi-circles cut out half way along three of its edges.

Which of the following is not a possible view of the paper after it has been folded along one of the dotted lines?

A

B

C

D

55) The table shows the numbers of male and female students studying a selection of subjects at a college.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>24</td>
<td>41</td>
</tr>
<tr>
<td>Geography</td>
<td>26</td>
<td>32</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Mathematics</td>
<td>104</td>
<td>61</td>
</tr>
<tr>
<td>Microbiology</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Sociology</td>
<td>18</td>
<td>67</td>
</tr>
</tbody>
</table>

In which other subject was the balance of male and female students closest to that for Microbiology?

A) Biology
B) Geography
C) Chemistry
D) Mathematics

56) Three thermometers are accurate within 2 degrees above and below the temperature, actually read. One reads 7°C, one reads 9°C and one reads 10°C.

What is the minimum range in which the true temperature lies?

A) 5-12 °C
B) 7-9 °C
C) 8-10 °C
D) 8-9 °C
57) A man drives off from his house and travels through the village at a constant speed. As he leaves the village behind, his speed increases to a new constant value, which he maintains until he reaches a steep hill that slows him down. At the top of the hill, the driver stops for a few minutes to admire the view. He realizes that he has left his picnic basket at home and so drives rapidly back along his route to collect it.

Which one of the following graphs best represents the driver's distance from home throughout his journey?

A) ![Graph A]  
B) ![Graph B]  
C) ![Graph C]  
D) ![Graph D]

58) A pizzeria shop sells pizzas for a fixed amount plus an amount proportional to the ingredients used. A regular pizza uses twice the ingredients of a mini one and a large pizza twice those of a regular one.

Which one of the following price scales could he have used for mini, regular and large pizzas?

A) $0.49, $1.00, $1.96  
B) $1.00, $2.00, $3.00  
C) $1.10, $2.20, $3.30  
D) $2.00, $3.00, $5.00

59) Divide 40 by 1/4 and add 10.

What is the answer?

A) 10  
B) 20  
C) 160  
D) 170
60) The cost of producing televisions in Country X is 10% less than the cost of producing televisions in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import televisions from Country X to Country Y than to produce televisions in Country Y.

The statements above, if true, best support which of the following assertions?

A) Labor costs in Country X are ten percent below those in Country Y.
B) The tariff on a television imported from Country X to Country Y is less than ten percent of the cost of manufacturing the television in Country Y.
C) The fee for transporting a television from Country X to Country Y is more than ten percent of the cost of manufacturing the television in Country X.
D) It takes ten percent less time to manufacture a television in Country X than it does in Country Y.

61) Rayyan has to do some marketing research for her Consumer Behavior class. She creates 30 questions about what people think about before buying a new high tech device. She puts these questions on her Facebook page and over 100 of her friends answer them.

Rayyan has used which method of research?

A) Survey
B) Research review
C) Observational study
D) Statistics

62) Some months have 31 days, how many have 28?

A) One month and that is February
B) February, every 4 years.
C) All months have (at least) 28 days
D) None of the above

63) How many birthdays does the average woman have?

A) 70
B) 65.5
C) One per year
D) None

64) A publisher produces newspapers, all of which have a number of pages, which is a multiple of 32 (32, 64, 96, ...).

The center spread of the newspaper could have pages numbered:

A) 15 and 16
B) 30 and 31
C) 63 and 64
D) 96 and 97

65) Look at this series: 53, 53, 40, 40, 27, 27, ...

What number should come next?

A) 12
B) 14
C) 27
D) 53
66) A company decided to change its name on one condition that is when painted vertically from top to bottom on the glass front door will be read the same from inside and out.

Which of the following names should be used?
A) WEEM
B) NONA
C) DOOD
D) TITA

67) Hana’s mother has sent her to buy apples. The mother knows that each apple cost 12p each yesterday and gave Hana the exact money to buy a certain number. When Hana gets there, she finds there is a special offer (buy 8 apples or more, the price of all apples bought is reduced by 2p each). Hana finds that she can now buy 2 more apples than her mother thought with the money given. How many can she buy?
A) 10
B) 12
C) 16
D) 18

68) Look at this series: F2, ..., D8, C16, B32, ...
What number should fill the blank?
A) A16
B) G4
C) E4
D) E3

69) Which of the following diagrams indicates the best relation between Travelers, Train and Bus?
A)  [Diagram A]
B)  [Diagram B]
C)  [Diagram C]
D)  [Diagram D]

70) A, P, R, X, S and Z are sitting in a row. S and Z are in the center. A and P are at the ends. R is sitting to the left of A.
Who is to the right of P?
A) A
B) X
C) S
D) Z
Pharmacy Oriented Questions

71) ......................... is added to water to prevent tooth decay
A) Borax
B) Sodium Bicarbonate
C) Sodium Fluoride
D) Chlorine

72) Vitamin D is recommended for babies to protect against
A) Fever
B) Anemia
C) Colic
D) Rickets

73) White light passes through a triangular prism and a band of colour is observed where it emerges. The phenomenon that occurs in the prism and the band of colour are respectively known as:
A) Dispersion and spectrum.
B) Spectrum and refraction.
C) Spectrum and dispersion.
D) Dispersion and refraction.

74) Antibiotics include the following, EXCEPT:
A) Penicillin
B) Erythromycin
C) Insulin
D) Tetracycline

75) ......................... is the process of transfer of drug to blood circulation
A) Metabolism
B) Absorption
C) Digestion
D) Elimination

76) If a 100 ml bottle containing 2.5 g of amoxicillin, the physician recommended a dose of 125 mg / four times / daily. Then ........ days will be taken to finish the bottle
A) 4
B) 5
C) 3
D) 2
77) The most convenient and usable dosage form for adult
A) Syrup
B) Tablet
C) Injection
D) Suppository

78) For emergency treatment, the drug should be taken in the form of
A) Tablets
B) Capsules
C) IV injection
D) Creams

79) If you had a sister who just knew she was pregnant, which of the following recommendations would be most important to her?
A) She can use any medication all-over the pregnancy period
B) She is not allowed to take any sort of medicaments during pregnancy
C) She should refer to her doctor before taking any medication
D) She should read the medication insert and refer to her doctor before taking any medication

80) Which is the following is considered as cosmetic product
A) Tablet
B) Capsule
C) Lipstick
D) Suppository

81) The bottle of a suspension product should have a statement of
A) Filter the suspended particles before use
B) Dilute the suspension with water before use
C) Shake the bottle well before use
D) Do not Shake the bottle well before use

82) A type of tablet can be easily divided into two halves
A) Scored
B) Film coated
C) Sugar coated
D) Concave shape
83) If you got a mild muscular pain after you had fell down, which of the following choices would be appropriate to your condition.
   A) Apply a cream for muscular pain
   B) Take a double dose of a pill known to relief muscular pain
   C) Use a cream and take a pill in the same time
   D) Try first non-medication approaches like applying ice

84) Which of the following questions you would rather ask the pharmacist and not the doctor?
   A) Are these symptoms consistent with rheumatoid?
   B) How many times should I take this medicament?
   C) Does the x-ray show fracture in my bone?
   D) Can I delay my surgical operation for one additional week?

85) ........................................ is the main area of pharmacy studies
   A) Diagnosis of diseases
   B) Medications and therapy
   C) Physical and alternative therapy
   D) Laboratory investigations

86) It is recommended for new born to take vaccine to protect against the following diseases, EXCEPT:
   A) Mumps
   B) Chicken box
   C) Poliomyelitis
   D) Tonsillitis

87) Carbon dioxide, released on putting an effervescent tablet in water, is a result of interaction between
   A) Sodium sulphate and citric acid
   B) Sodium bicarbonate and citric acid
   C) Ammonium sulphate and citric acid
   D) Sodium nitrate and citric acid

88) A person may suffer from vitamin D deficiency if he:
   A) Uses sunscreens on a daily basis
   B) Is highly exposed to sun
   C) Eats food poor in carbohydrates
   D) Does not exercise enough
89) The amount of paracetamol (Panadol) in the blood after taken orally a capsule contains 5mg, should be:
   A) Less than 5mg
   B) More than 5mg
   C) Equal to 5mg
   D) Equal to zero

90) Your mother took antacid orally after a heavy meal as she suffered from
   A) Headache
   B) Heart burn
   C) Diarrhea
   D) Fever

Medicine & Health Science Oriented Questions

91) Autosomal recessive diseases are transmitted from parents to offspring. A diseased person can descend from the following matches EXCEPT:
   A) Two homozygous parents
   B) One heterozygous and one homozygous parents
   C) Two heterozygous parents
   D) One normal and one either homozygous or heterozygous parents

92) A patient with blood group A⁺ can be transfused with blood group:
   A) A⁺
   B) B⁻
   C) A⁻
   D) O⁻

93) Diuretic is a medication that helps increase the volume of urine by acting on:
   A) Ureter
   B) Urinary Bladder
   C) Kidney
   D) Urethrae

94) A patient who is infected by HIV but still without any symptoms is called ‘asymptomatic seropositive carrier’. Regarding this patient:
   A) His saliva is not infectious
   B) A sexual relation with him can transmit the virus to the partner
   C) His blood can be used for transfusion
   D) His shaving razor is not infectious
95) Heart rate:
   A) Increases during sleep
   B) Decreases under fear condition
   C) Increases during physical activity
   D) Remains constant regardless the circumstances

96) Which of the following diseases is considered an auto-immune disease (the body attacks its own organs):
   A) Cancer
   B) Hypertension
   C) Multiple sclerosis
   D) Common cold

97) Parkinson's disease is a disease of:
   A) Endocrine glands
   B) Nervous system
   C) Muscles
   D) Liver

98) A patient arrives at the hospital complaining from thirst, excessive drinking, excessive urination. The laboratory test shows the presence of glucose in the patient's urine. This may be caused by:
   A) Diabetes
   B) d. Salty foods
   C) Diuretics
   D) Hot weather

99) Excessive alcohol consumption may cause:
   A) Improvement of depression
   B) Liver dysfunction
   C) Losing hair
   D) Sexual dysfunction

100) Severe haemorrhage may have an effect on the blood pressure in the form of:
   A) Decreasing blood pressure
   B) Increasing blood pressure
   C) Maintaining blood pressure
   D) Fluctuating blood pressure
101) Which of the following vitamins affect the bone calcium concentration?
A) Vitamin A
B) Vitamin B
C) Vitamin C
D) Vitamin D

102) Second-hand smoke is:
A) Smoking of a cigarette in open air
B) Sitting beside someone smoking
C) Breathing car exhaust
D) Smoke that comes from the burning of cigarette filter tip

103) Which is most important for healthy visions?
A) Ginger
B) Carrots
C) Corn flower
D) Apple

104) Which of the following glands is considered the largest?
A) Pancreas
B) Testicle
C) Normal prostate
D) Salivary gland

105) What percentage of the total body volume of an adult is water?
A) 20%
B) 40%
C) 60%
D) 80%

106) Bleeding from the nose can be stopped by:
A) Sneezing
B) Inhaling water
C) Leaning the head forward
D) Pressing the nose by fingers

107) Swine Flu is transmitted by:
A) Breathing contaminated air
B) Drinking contaminated water
C) Eating contaminated food
D) Using contaminated tooth brush
108) Which of the following will help keep your immune system strong?
   A) Honey
   B) Sleeping 4 hours a day
   C) playing chess
   D) Eating eggs

109) Which of the following drinks is rich in anti-oxidant?
   A) Energy drinks
   B) Soft drinks
   C) Green tea
   D) Water

110) Excessive intake of salt in diet may results in:
   A) Increase in blood pressure
   B) Decrease in blood pressure
   C) Excessive sweating
   D) Excessive urination