Part I – English

A. Read the under lined phrases or sentences and find their correct form from the given alternatives.

1. *Satisfied by the strong performance on GMAT test, it was decided by Peter to give himself a two-week rest.*

   A. *It was decided by Peter to give himself a two-week rest*
   B. *Peter decided to give himself a two-week rest*
   C. *a two-week rest was given by Peter to himself*
   D. *Peter's decision was to give himself a two-week rest*
   E. *it was decided that Peter give himself a two-week rest*

2. Since 1999, the number of internet websites with the domain name ending with *.com* have grown from 62 million to nearly 78 million.

   A. have grown from 62 million to nearly 78 million
   B. are growing from 62 million to nearly 78 million
   C. grew from 62 million to nearly 78 million
   D. grow from 62 million to nearly 78 million
   E. has grown from 62 million to nearly 78 million

3. Eighty percent of notebook computers that were sold in United States last year were manufactured in China, a country that has the largest population in the world.

   A. Eighty percent of notebook computers that were sold in United States last year were
   B. Eighty percent of notebook computers that were sold in United States last year had been
   C. Eighty percent of notebook computers that were sold in United States last year have been
   D. Last year eighty percent of notebook computers were sold in United States that have been
   E. Last year eighty percent of notebook computers that were sold in United States had been

4. According to a report from Anderson Accounting, the gross sales of General Movies in 2002 were $86 million as many as their expected revenues.

   A. as many as their expected
   B. more than their expected
   C. as many as their excepted
   D. more than their expectedly
   E. as many as their expectedly

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5. The current downturn in the U.S. economy is encouraging many young professionals to return to school, which doubles to twice the number of applicants five years ago.

A. which doubles to twice the number of applicants five years ago
B. Doubling to twice the number of applicants five years ago
C. which doubles to twice the number of applicants that were five years ago
D. Doubling to twice the number of applicants five years before
E. which doubles to twice the number of applicants five years before

6. Using the KB833330, a new virus known as Bagle can be blocked outside the Local Area Network.

A. Using the KB833330, a new virus known as Bagle can be blocked outside the Local Area Network.
B. A new virus known as Bagle can be blocked outside the Local Area Network, using the KB833330.
C. Blocking a new virus known as Bagle outside the Local Area Network, an engineer can use the KB833330 by an engineer
D. Outside the Local Area Network, a new virus known as Bagle can be blocked using the KB833330 by an engineer
E. Using the KB833330, an engineer can block a new virus known as Bagle outside the Local Area Network.

7. The English exam section consists of 35 questions, each question a test of a certain English Language competency.

A. each question a test on a certain English Language competency
B. all the questions a test on a certain English Language competency
C. all the questions are tested on a certain English Language competency
D. every question is tested on a certain English Language competency
E. each question is tested on a certain English Language competency

8. According to a survey, a company president typically spends 60 percent of his or her time on communicational activities, such as answering the calls, communicating with clients and to speak on the meetings.

A. communicating with clients and to speak
B. communicating with clients and speaking
C. to communicate with clients and speak
D. to communicate with clients and to speak
E. to communicate with clients and speaking

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d. Increasing the financial resources of the airline by raising the ticket price for domestic passengers
e. Offering superior VIP service for foreign passengers.

PART II - MATHEMATICS

1. How many degrees are there in $7\pi/15$ radian

a. 95^0 b. 84^0 c. 79^0 d. 90^0

2. The value of x in the expression $2^{5x-2}-3^{1-2x}=0$ is

a. ln12/ln208 b. ln12/ln288 c. ln288/ln12 d. none

3. The simplified form of 25-5[6+3x(2+5x-5)] is

a. $75x^2-45x+5$ b. $-75x^2+45x-5$ c. $-75x^2-45x-5$ d. none

4. What are the intercepts of the curve: $y=x^2-4$

a. (0,-4),(2,0),(-2,0) b. (-4,0),(-3,0),(0,-2)

c. (0,-4), (-2,-2),(2,2) d. none

5. The value of $5\div(3-2\sqrt{3})$ is

a. $-5-(10/3)\sqrt{3}$ b. $10/3-5\sqrt{3}$ c. $5+(10/35)\sqrt{3}$ d. none

6. It costs \$30/hr to run a boat when sailing at 10mil/hr. what is the operating cost in dollar per mile?

a. \$3/hr b. \$3/mil c. \$0.3/mil d. \$0.3/hr

7. The equation of the line passing through (-1,3) and perpendicular to the line 2x-3y=5 is

a. 2x-3y=3 b. 2y+3x=5 c. 2y+3x=3 d. none

8. When the polynomial x^2-3x+8 is divided by (x-2), what is the remainder?

a. 6 b. 4 c. 3 d. 1

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6. Can I have a kilo of sugar?
   a. I am sorry. I don't have any.
   b. Yes, you can. The price is 8 birr a kilo.
   c. Yes, I do the price is 8 birr a kilo.
   d. a & b

7. Bill earns more commission than does Sandra. But since Andrew earns more commission than does Lisa, it follows that Bill earns more commission than does Lisa.
   Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:
   a. Andrew earns more commission than Bill
   b. Sandra earns more commission than Lisa
   c. Sandra earns more commission than Andrew
   d. Sandra and Andrew earn the same amount of commission
   e. Bill and Andrew earn the same amount of commission

8. During the SARS days, about 23,500 doctors who had treated SARS sufferers died and about 23,670 doctors who had not engaged in treatment for SARS sufferers died. On the basis of those figures, it can be concluded that it was not much more dangerous to participate in SARS treatment during the SARS day than it was not to participate in SARS treatment.
   Which of the following would reveal most clearly the absurdity of the conclusion drawn above?
   a. Counting deaths among doctors who had participated in SARS treatment in addition to deaths among doctors who had not participated in SARS treatment
   b. Expressing the difference between the numbers of deaths among doctors who had treated SARS sufferers and doctors who had not treated SARS suffers as a percentage of the total number of deaths
   c. Separating deaths caused by accidents during the treatment to SARS suffers from deaths caused by infect of SARS suffers.
   d. Comparing death rates per thousand members of each group rather than comparing total numbers of deaths
   e. Comparing deaths caused by accidents in the United States to deaths caused by infect in treating SARS suffers.

9. In 2003 an airline in United State lost more than half, on average, of the foreign passengers they had previously served each year. Researchers have alleged that this extreme drop resulted from a rise in price of tickets for international lines from $60 to $90 per 1,000 miles.
   Which of the following, if feasible, offers the best prospects for alleviating the problem of the drop in passengers as the researchers assessed it?
   a. Cooperating with other airlines to provide more international lines.
   b. Allowing foreign passengers to pay the same as the previous international line
   c. Reemphasizing the goals and mission of the airline as serving both domestic passengers and foreign passengers

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9. The best way for an IT professional to protect data is to periodically back it in a pre-formatted disc.

A. to periodically back it in a pre-formatted disc
B. if it is quickly backed in a pre-formatted disc
C. for it to be backed periodically in a pre-formatted disc
D. if the data is periodically backed in a pre-formatted disc
E. to have them periodically backed in a pre-formatted disc

10. Unlike a corporation, which pays tax based on its related revenues, a fixed amount of tax is paid by a sole ownership business.

A. a fixed amount of tax is paid by a sole ownership business
B. with a sole ownership business a fixed amount of tax is paid
C. a sole ownership is paid a fixed amount of tax
D. for a sole ownership business a fixed amount of tax is paid
E. a sole ownership pays a fixed amount of tax

B. Grammar and Critical Reasoning

1. China….. Greatly in terms of its cultural values over the past five years.
   a. Changed b. Is changing C. Has changed
   d. Will have changed e. Had changed

2. I feel lucky to have found a well-paid job on time, otherwise I….. for a job now.
   a. will be looking b. have looked c. am looking
   d. would be looking e. were looking

3. I…..Quite a low grade in the English exam, so I ….. harder and harder.
   a. have got/was studying b. got/am studying
   c. will get /have studied d. get will have studied
   e. had got/will study

4. If I….. Mary last night, I ….. her to bring my cd today.
   a. saw/would remind
   b. was seeing/ could have reminded
   c. had seen/ would be reminding
   d. must have seen/had reminded

5. Should I not pay for my electricity bill tomorrow, they …. My energy any time.
   a. were cutting b. have cut c. could have cut
   d. could cut

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7. If electrical energy costs 10 cents per kilowatt-hour, how much does it cost to operate a 700-W drier for 30min

a. 5cents (b.) 3.5 cents c. 25 cents d. 50 cents

8. Calculate your average speed, if you walk 800m at a speed of 1.6m/s and then jog 800m at a speed of 4m/s.

a. 5.54m/s (b.) 2.29m/s c. 5.98m/s d. 3.29m/s

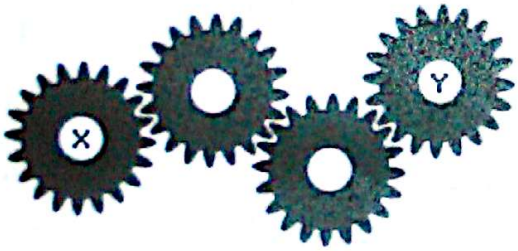
9. It is 12m from crest to crest in a system of water waves. If 20 waves pass a given point each minute, find the speed of the wave.

a. 6m/s (b.) 4m/s c. 7m/s d. 9m/s

10. If a man of height h is standing in front of a mirror, the minimum size of mirror he needs to see his full image will be

a. h b. 2h c. 1/2h (d.) 3/4h

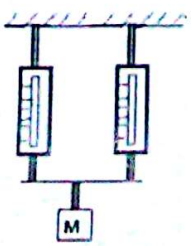
11. If gear X turns clockwise at constant speed of 10rpm, how does gear Y turn?

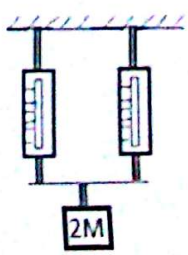


a. Clockwise at 10rpm
b. Counterclockwise at 10rpm
(c.) Counterclockwise at 5rpm
d. Clockwise at 5rpm

12. Where do you think the reading of the spring is maximum? (The springs are identical.)

A. 

B. 

C. 

(D.) A and C

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20. Suppose ΔABC is acute, then the center of circle ABC lies

a. on the side of ΔABC
b. in the interior of ΔABC
c. in the exterior of ΔABC
d. at vertex of ΔABC

PART III - PHYSICS

Take $g=10m/s^2$, density of water $=1000kg/m^3$ whenever necessary.

1. Suppose a car starts from rest and accelerates (speeds up) to a velocity of 20ft/s along a straight line in 4s. Find its average velocity in this 4 seconds time.

a. 5ft/s b.10ft/s c.6ft/s d. 2ft/s

2. A water skier is being pilled at a constant speed of 12m/s by a speed boat. The tension in the cable pulling the skier is 140 N. How large a force is opposing the skier's motion?

a. 150N b. 120N c. 130N d. 140N

3. A car with 80cm diameter wheel starts from rest and accelerates uniformly to a speed of 15m/s in 30s. Through how many revolutions did each wheel turn in this time?

a. 76rev b. 90rev c. 45rev d. 23rev

4. An object which weighs 24g in air and 16g when submerged in water weighs only 12g when submerged in a particular type of fluid. What is the density of the fluid?

a. $5643kg/m^3$ b. $1200kg/m^3$ c. $321kg/m^3$ d. $1500kg/m^3$

5. The gas in the piston of a diesel engine is originally at a temperature of 27^0c and a pressure of 74cmHg when it is suddenly compressed, the final pressure of the gas is 3700cm Hg and the temperature has been increased to 547^0c, what is the final volume of the gas in terms of the original volume?

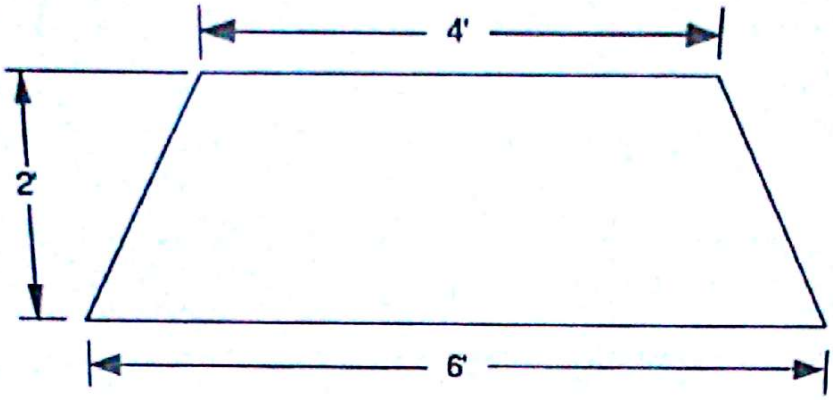
a. 0.058v1 b.0.98v1 c.0.034v1 d.0.033v1

6. A rectangular bar of iron is 2cm by 2cm in cross section and is 40cm long. How large is its resistance? Given $\rho = 1.0 \times 10^{-7}\ \Omega.M$

a. 0.0001 Ω b. 0.001 Ω c.0.01 Ω d.0.10 Ω

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16. Compute the area of the trapezoid.



a. 24 square feet
b. 48 square feet
c. 10 square feet
d. none

17. If the lengths of the diagonals of a rhombus are 12cm and 16cm long, what is the area of the rhombus?

a. 192cm²
b. 28cm²
c. 96cm²
d. none

18. The sum of $9500.50 representing the profits of a venture, is to be divided among three partners in the ratio 3:6:7 respectively is
a. 2005,2950.25,4545.25
b. 1900,3200,4400.50
c. 1781.40,3562.68,4156.46
d. none

19. In the equations $\frac{3x}{4}+\frac{1}{6}=\frac{2x-7}{3}$, the value of x is
a. -5
b. 2.5
c. -2
d. none

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9. The simplified form of $\frac{sin(-x)}{cos(-x)}$ is

a. tanx b. cotx c. -tanx d. -cotx

10. If Bekele can finish a job by himself in 10 days and in six days together with Almaz, then the number of days Almaz needs to finish the job by herself is:

a. 10 b. 12 c. 15 d. none

11. Identify the missing number at the end of the series.

3, 6, 11, 18?

a. 24 b. 25 c. 26 d. 27

12. If $(5^x)^3 8^x = 10\sqrt{10}$, then the value of x is

a. 1/4
b. 1/2
c. $\sqrt{6}/6$
d. 1/6

13. The expanded form of $(2a-b+c)^2$ is

a. $4a^2+4ab+4ac-2bc+b^2+c^2$
b. $4a^2-b^2-c^2+4ab-4ac-2bc$
c. $4a^2+b^2+c^2-4ab+4ac-2bc$
d. none

14. If 7(y+1) represents an odd integer, which of the following represents the next odd integer

a. 7(y-2)
b. 7(y+2)
c. 7(y+1)+2
d. 7(y-1)+2

15. Find the area of square whose diagonal is 15m.

a. $225m^2$
b. $60m^2$
c. $112.5m^2$
d. $30m^2$

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