MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY BATHINDA (Pb) - 151001
(State Univ. Estb by Punjab Govt. Act No. 5 (2015) and Approved u/s 2(f) & 12(B) of the UGC Act of 1956)

RESEARCH METHODOLOGY/LOGICAL/ANALYTICAL/LANGUAGE APTITUDE
(Common to All Disciplines)

3rd PhD ENTRANCE TEST (PET-2018)

Roll No: _____ Date: **3rd June 2018**   Signature of the Candidate._____

Q1   Hypothesis cannot be stated in:

   (a) Null and question form terms   (b) Declarative terms
   (c) General terms   (d) Directional terms

Q2   Which of the following is an example of negative correlation:

   (a) An increase in population will lead to a shortage of food grains
   (b) Poor intelligence means low grades in school
   (c) Corruption in India is increasing
   (d) Poor working condition retards output

Q3   A statistical measure based upon the entire population is called parameter while measure based upon a sample is known as:

   (a) Sample parameter   (b) Inference
   (c) Statistic   (d) Any of these

Q4   Independent variables are not manipulated in:

   (a) Normative researches   (b) Ex-post facto researches
   (c) Both of the above   (d) None of the above

Q5   Seeing a very big rally it was reported that Party A will win the election, the conclusion was based on :

   (a) Random sampling   (b) Cluster sampling
   (c) Systematic sampling   (d) Purposive sampling

Q6   What do you consider as the main aim of inter disciplinary research?

   (a) To over simplify the problem of research
   (b) To bring out holistic approach to research
   (c) To create a new trend in research methodology
   (d) To reduce the emphasis of single subject in research domain

Q7   The strength (degree) of the correlation between a set of independent variables X and a dependent variable Y is measured by:

   (a) Coefficient of Correlation   (b) Coefficient of Determination
   (c) Standard error of estimate   (d) All of the above

Q8   The null hypothesis in the chi-square test states that:

   (a) The rows and columns in the table are associated
   (b) The rows and columns in the table are not associated
   (c) Neither of the two
   (d) Either of the two

Q9   A process by which we estimate the value of dependent variable on the basis of one or more independent variables is called:

   (a) Correlation   (b) Residual   (c) Regression   (d) Slope

Q10 The test to be applied when the number of observations are less than 30 and variance is not known, is said to be:

(a) Z-test   (b) T-test   (c) F-test   (d) Chi-square test

Q11 Find the wrong number in the given sequence:
190, 166, 145, 128, 112, 100, 91

(a) 100   (b) 166   (c) 145   (d) 128

Q12 A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is:

(a) 100 kmph   (b) 110 kmph   (c) 120 kmph   (d) 130 kmph

Q13 Arrange the words given below in a meaningful sequence:

1. Protect   2. Pressure   3. Relief   4. Rain   5. Flood

(a) 2, 4, 3, 1, 5   (b) 2, 4, 5, 1, 3
(c) 2, 5, 4, 1, 3   (d) 3, 2, 4, 5, 1

Q14 Choose the word which is different from the rest:

(a) Eyes   (b) Ears   (c) Hands   (d) Nose

Q15 In spite of the immense pressure exerted by the militants, the Government has decided not to give in. (Choose the alternative which best expresses the meaning of underlined phrase):

(a) Yield   (b) Accede   (c) Oblige   (d) Confirm

Q16 Here are some words translated from an artificial language:

1. hapllesh means cloudburst
2. srenchoch means pinball
3. resbosrench means ninepin

Which word could mean "cloud nine"?

(a) leshsrench   (b) ochhapl
(c) haplresbo   (d) haploch

Q17 Marathon is to race as hibernation is to:

(a) Winter   (b) Bear   (c) Dream   (d) Sleep

Q18 ' Reading' is related to 'Knowledge' in the same way as 'Work' is related to:

(a) Money   (b) Employment   (c) Experience   (d) Engagement

Q19 *Read the following paragraph carefully and answer the question given below it.*

Though the waste of time or the expenditure on fashions is very large, yet fashions have come to stay. They will not go, come what may. However, what is now required is that strong efforts should be made to displace the excessive craze for fashion from the minds of these youngsters.

The passage best supports the statement that:

(a) Fashion is the need of the day
(b) The excessive craze for fashion is detrimental to one's personality
(c) The hoard for fashion should be done away with so as not to let down the constructive development
(d) Work and other activities should be valued more than the outward appearance

Q20   The absence of law and order is:

   (a) Rebellion   (b) Anarchy ✓   (c) Mutiny   (d) Revolt

Instructions: In each Q21 and Q22 a statement is followed by two conclusions numbered I and II. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statement:

Q21   **Statement**: Women's organizations in India have welcomed the amendment of the Industrial Employment Rules 1946 to curb sexual harassment at the work place.
   Conclusions:
   I Sexual harassment of women at work place is more prevalent in India as compared to other developed countries.
   II Many organizations in India will stop recruiting women to avoid such problems.

   (a) Only conclusion I follows   (b) Only conclusion II follows
   (c) Neither I nor II follows ✓   (d) Both I and II follow

Q22   **Statement:** Until our country achieves economic equality, political freedom and democracy would be meaningless.
   Conclusions:

   I Political freedom and democracy go hand in hand
   II Economic equality leads to real political freedom and democracy

   (a) Only conclusion I follows   (b) Only conclusion II follows ✓
   (c) Either I or II follows   (d) Both I and II follow

Q23   A and B together have Rs. 1545. If 4/15 of A's amount is equal to 2/5 of B's amount, how much amount does A have?

   (a) Rs. 618   (b) Rs. 881   (c) Rs. 927 ✓   (d) Rs. 664

Q24   In a mixture of 60 litres, the ratio of milk and water is 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is:

   (a) 20 litres   (b) 30 litres   (c) 40 litres   (d) 60 litres ✓

Q25   In a box, there are 8 yellow, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither yellow nor green?

   (a) $\frac{1}{3}$ ✓   (b) $\frac{6}{13}$ (c) $\frac{7}{19}$ (d) $\frac{8}{21}$

Q26   An error 2 % in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:

   (a) 2 %   (b) 2.02 %   (c) 4 %   (d) 4.04 % ✓

Q27   In a certain store, the profit is 320 % of the cost. If the cost increases by 25 % but the selling price remains constant, approximately what percentage of the selling price is the profit?
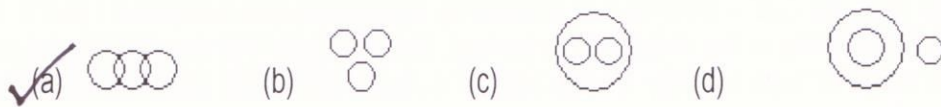
   (a) 30 %   (b) 70 % ✓   (c) 100 %   (d) 250 %

Q28   A and B can do a work in 8 days, B and C can do the same work in 12 days. A, B and C together can finish it in 6 days. A and C together will do it in :

   (a) 4 days   (b) 6 days   (c) 8 days ✓   (d) 12 days

Q29   Which of the following diagrams indicates the best relation between Examination, Questions and Practice?

(a) ⊕⊕⊕   (b)   (c)   (d)

The bar graph (Fig. 1) shows the percentage distribution of total expenditures of a company under various expense heads during 2015.
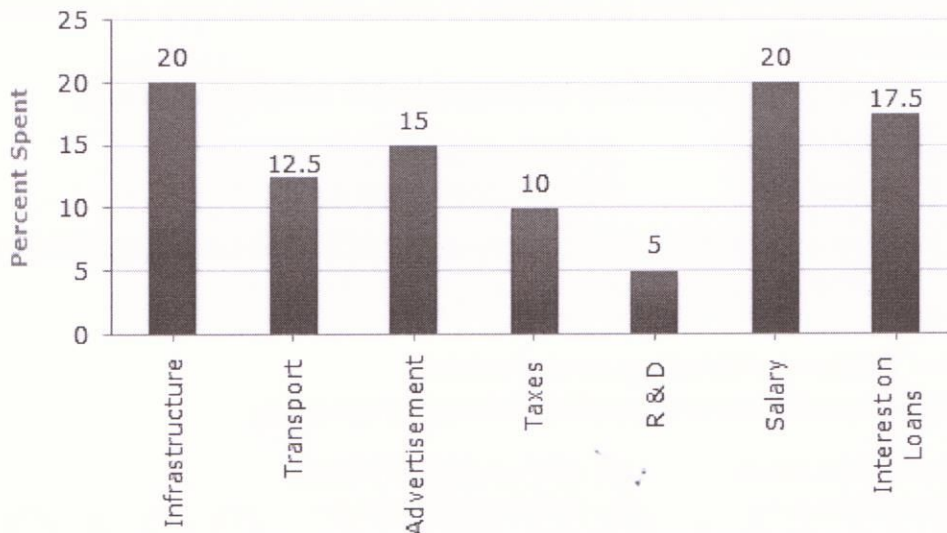

Fig. 1: **Distribution of Total Expenditure (%) of a Company**

Answer Q 30 to Q32 are based on this

Q30   What is the ratio of the total expenditure on infrastructure and transport to the total expenditure on taxes and interest on loans?

(a) 5:4   (b) 8:7   (c) 9:7   (d) 13:11

Q31   If the interest on loans amounted to Rs. 2.45 crores then the total amount of expenditure on advertisement, taxes and research and development is?

(a) Rs. 7 crores   (b) Rs. 5.4 crores (c) Rs. 4.2 crores (d) Rs. 3 crores

Q32   The expenditure on the interest on loans is by what percent more than the expenditure on transport?

(a) 5%   (b) 10%   (c) 20%   (d) 40%

Read the paragraph carefully and answer the questions based on this in Q 33-Q 37:

Speech is great blessings but it can also be great curse, for while it helps us to make our intentions and desires known to our fellows, it can also, if we use it carelessly, make our attitude completely misunderstood. A slip of the tongue, the use of unusual word, or of an ambiguous word, and so on, may create an enemy where we had hoped to win a friend. Again, different classes of people use different vocabularies, and the ordinary speech of an educated may strike an uneducated listener as pompous. Unwittingly, we may use a word which bears a different meaning to our listener from what it does to men of our own class. Thus speech is not a gift to use lightly without thought, but one which demands careful handling. Only a fool will express himself alike to all kinds and conditions to men.

Q33   The best way to win a friend is to avoid:

    (a) Irony in speech   ·   (b) Pomposity in speech

    (c) Verbosity in speech   (d) Ambiguity in speech ✓

Q34   While talking to an uneducated person, we should use:

    (a) Ordinary speech   (b) His vocabulary ✓

    (c) Simple words   (d) Polite language

Q35   If one used the same style of language with everyone, one would sound:

    (a) Flat   (b) Boring   (c) Foolish ✓   (d) Undemocratic

Q36   A 'slip of the tongue' means something said:

    (a) Wrongly by choice   (b) Unintentionally

    (c) Without giving proper thought ✓   (d) To hurt another person

Q37   Speech can be curse, because it can:

    (a) Hurt others   (b) Create enemies

    (c) Create misunderstanding ✓   (d) Reveal our true intentions

Q38   Change to passive voice.
    Who is creating this mess?

    (a) By whom is this mess being created? ✓
    (b) By whom has this mess been created?
    (c) By whom this mess is being created?
    (d) Who has been creating this mess?

Q39   Saysha always ...... the permission of her father before going for movie:

    (a) Seeks ✓   (b) Sought   (c) Is seeking   (d) Seeked

Q40   Choose the option which best expresses the given sentence in Indirect speech.

    The little girl said to her mother, "Did the sun rise in the East?"

    (a) The little girl said to her mother that the sun rose in the East
    (b) The little girl asked her mother if the sun rose in the East ✓
    (c) The little girl said to her mother if the sun rises in the East
    (d) The little girl asked her mother if the sun is in the East

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