FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2018
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT
GENERAL KNOWLEDGE-I
(GENERAL SCIENCE & ABILITY)

TIME ALLOWED: THREE HOURS	**PART-I (MCQS)**	**MAXIMUM MARKS = 20**
PART-I(MCQS): MAXIMUM 30 MINUTES	**PART-II**	**MAXIMUM MARKS = 80**

NOTE: (i) Part-II is to be attempted on the separate **Answer Book.**
   (ii) Attempt Only **FOUR** questions from **Part II**, by selecting **TWO** questions from **EACH SECTION**. All questions carry Equal marks.
   (iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
   (iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
   (v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
   (vi) Extra attempt of any question or any part of the attempted question will not be considered.
   (vii) Use of **Calculator** is **NOT** allowed.
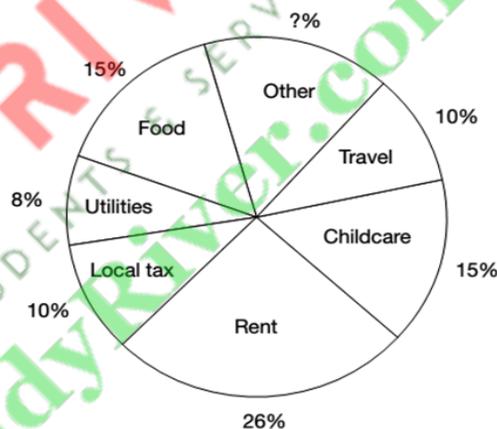
PART-II
SECTION-I

Q. No. 2. **(A).** Describe different methods to estimate the age of the Universe. **(5)**

   (B). Explain the formation of Lunar Eclipse. **(5)**

   (C). Explain the terms Dark Energy and Dark Matter. **(5)**

   (D). Define the term Black Hole. What's expected inside it? **(5) (20)**

Q. No. 3. **(A).** Describe different causes and preventions of 'Polio' **(5)**

   (B). Define the term 'Bio-Fuel'. How is it helpful to promote clean energy? **(5)**

   (C). Define 'Carbohydrates'. Describe different steps to digest these in the human body. **(5)**

   (D). Describe the 'Cell Structure'. Write down at least three differences between an animal cell and plant cell. **(5) (20)**

Q. No. 4. **(A).** What is 'Acid Rain'.Describe its causes and how it can be prevented? **(5)**

   (B). What is 'Water Pollution'. Discuss its causes and measurement methods. Name the countries with the highest and lowest percentage of it. **(5)**

   (C). Write a comprehensive note on 'Smog'. **(5)**

   (D). Describe different causes of 'Tsunami'. Is there any difference between a Tsunami and a tidal wave? Name the worst Tsunami ever recorded. **(5) (20)**

Q. No. 5. **(A).** Write a note, how data is stored on a 'Hard Disk'. **(5)**

   (B). How an 'Optical Fiber' is constructed? How is it helpful in transmitting the electromagnetic radiations? **(5)**

   (C). Write a comprehensive note on 'Balanced Diet'. **(5)**

   (D). What is 'Artificial Intelligence'? How is it helpful for humanity? **(5) (20)**

SECTION-II

Q. No. 6.   **(A).** It takes 3 liters of paint to cover an area of 24 square meters. What percentage **(5)** increase in the quantity of paint would be required to cover an area of 50.4 square meters?

(B). An automobile travels 3 km towards south, 4 km towards west, 5 km towards north **(5)** and 2 km towards south-east. How far is it from its starting position?

(C). Tahir started a business with a capital of Rs. 15,000. After 5 months Umar also joined **(5)** him with an investment of Rs. 30,000. At the start of 9th month, Usman joined them by investing Rs. 45,000. At the end of the year they earned a profit of Rs. 406,000. Find the share of each one.

(D). A man left his property of Rs. 640,000. A debt of Rs. 40,000 was due to him and Rs. **(5) (20)** 5,000 was spent on his burial. Distribute the amount between his widow, one daughter and two sons according to the Islamic Law.

Q. No. 7.   The breakdown of average monthly expenditure for a family is given in the following Figure:

(A). Calculate from the figure what percentage of the family's expenditure is on 'other '? **(5)**

(B). Approximately what fraction of the **(5)** family's monthly expenditure do' 'utilities', 'rent' and 'food' represent?

(C). If the family spends Rs.11600 on **(5)** utilities, how much is the family's total expenditure?

(D). 'Other' expenditure comprises savings, **(5) (20)** entertainment and luxury items, which are spent in the ratio 3 : 4 : 1. Calculate how much the family saves each month if monthly income is Rs.24,000.

Q. No. 8.   **(A).** Police officers are in pursuit of a stolen vehicle. Officer Baker is directly behind **(5)** the stolen car. Officer Lopez is behind Baker; Officer O'Malley is behind Lopez. Officer Reinhart is ahead of the stolen car   and coming from the opposite direction. Officer Reinhart makes a U-turn and joins the pursuit. He pulls in behind Officer Lopez. Officer Baker pulls up on   the driver's side of the stolen vehicle and Officer Lopez pulls up on the other   side. Which officer is directly behind the vehicle?

(B). Define a Histogram. How is it constructed? What information may be deduced **(5)** from it?

(C). Look at this series: F2, __, D8, C16, B32, What number should fill the blank? **(5)**

(D). In a certain code language LANDMINE is written as PYRBQGRC. How will **(5) (20)** HOMEMADE be written in that code language?

****