



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2020 FOR RECRUITMENT TO POSTS IN
BS-17 UNDER THE FEDERAL GOVERNMENT
GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

Roll Number

TIME ALLOWED: THREE HOURS
PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)
PART-II

MAXIMUM MARKS = 20
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.

PART - II (SECTION - A)

- Q. 2. (a) On 7th April 2012 an Avalanche hit a Pakistan military base in Gayari sector trapping 140 soldiers and civilians under deep snow. What is Avalanche; describe its four types with focus on most dangerous type? (5)
- (b) What do you understand by Global Wind and Pressure patterns? Also explain wind and pressure features at higher altitude. (5)
- (c) World largest earthquake was assigned a magnitude of 9.5 by the United States Geological Survey on 22 May 1960 in southern Chile Valdivia. What do you know about earthquake? Also explain shallow-focus and deep-focus earthquakes. (5)
- (d) Differentiate between the renewable and non renewable energy sources. Briefly explain Geothermal Energy and Hydro Electricity. (5)(20)
- ✓ Q. 3 (a) What are Pesticides? Explain their different types; why persistent pesticides are more lethal for mankind? (5)
- (b) What are carbohydrates? Classify and give detail of each class along with examples. (5)
- (c) Discuss different methods of Food preservation. (5)
- (d) Where and how Fiber Optics are used? Also write down their advantages and disadvantages. (5)(20)
- ✓ Q. 4 (a) Briefly describe the various segments of atmosphere. How these segments are maintaining the Earth Radiation Balance? (5)
- (b) How the organic particulate matter enters in the atmosphere. Also describe the sources? (5)
- (c) What is natural radioactivity? How it is different from the artificial radioactivity? (5)
- (d) What are the Fossils? Discuss the importance of paleontology. (5)(20)
- Q. 5 (a) What do you know about Hepatitis? Describe its types and write down preventive measures. (5)
- (b) Differentiate between Middle Latitude Cyclones and Tornadoes. (5)
- (c) What is Open System Interconnections (OSI) and describe its layers? (5)
- (d) What is GPS? How does it work? (5)(20)

(SECTION - B)

- Q. 6. (a) Tariq can do a tailoring job in 6 hours. Sajid does the same job in 4 hours. Irfan does it in 8 hours. Tariq and Sajid start doing the work. Sajid leaves after two hours and Irfan replaces him. How long would it take to complete the work? (5)
- (b) Find the missing number to complete each sum. (5)
- (a) $9 + 8 - 5 = 2 \times (\dots\dots\dots)$ (b) $3 \times 9 - 14 = 24 - (\dots\dots\dots)$
- (c) $15 \div 3 \times 12 = 41 + (\dots\dots\dots)$ (d) $24 \div 4 + 5 = 66 \div (\dots\dots\dots)$
- (e) $8 \times 6 - 13 + 3 = 7 \times 6 - (\dots\dots\dots)$
- (c) There are seven students in a group having ages 17,17,18,18,18,19,19. Calculate mean, median, mode and range of their ages. Also define these mentioned terms. (5)
- (d) How does mental ability scales differ from IQ test? (5)(20)
- Q. 7 (a) ✓ Mushtaq, Pervaiz, Ehsan, Umair and Saleem are friends having different heights and weights. Mushtaq weighs four times as much as Pervaiz and Pervaiz weighs double than Ehsan, Ehsan weighs half as much as Umair and Umair weighs half as much as Saleem. (5)
- M (i) Who is the heaviest among five friends? (ii) Who is the second heaviest? (iii) Who has lowest weight? E
- PRU (iv) Who are equal in weight? (v) Mention the descending order.
- ✓ (b) A farmer needs to build a boundary wall around his farm. If the area of farm is 484 m², what will be the total area of the wall if it is two meters high on three sides and three meters high on one side? (5)
- ✓ (c) Five girls A,B,C,D,E and four boys W,X,Y,Z have to go to a trip in three cars, car-1, car-2 and car-3. The following restrictions for seating in car are to be observed: (5)
- (i) Only three persons can sit in one car (ii) At least one boy and one girl must be in each car
- (iii) A and D should remain together (iv) Z cannot sit with B or C in the same car
- Distribute boys and girls in three cars.
- (d) What are social skills? Describe four causes of weak social skills. (5)(20)
- Q. 8. (a) What do you understand by systematic sampling? Discuss its types. (5)
- (b) Blood groups of inhabitants of a village were checked. It was found that 600 people possessed blood group A, 650 possessed blood group B, 550 had blood group AB and 200 have blood group O. Calculate the probability of having blood group B. (ii) Calculate the probability of having blood group O. (5)
- (c) A group of 50 men can construct 20 kilometer road in 40 days. How long will 70 men take to complete same length of road? (5)
- (d) Zahid left a property worth Rs 1750,000/-. His family had to pay off a debt of Rs 150,000/-. The rest of money was distributed between a son and a daughter. How much did each child receive if share of a son was double than that of a daughter? (5)(20)



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2019
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT
GENERAL KNOWLEDGE-I
(GENERAL SCIENCE & ABILITY)

Roll Number

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.2 (a) Deficiency of vitamins causes different human diseases some of which are given in the table below choose the correct type of vitamin from the box and write in front of each disease. (5)

Vit. A	Vit. B1	Vit. C	Vit. D	Vit. E	Vit. K

Diseases caused due to lack of vitamin	Name of the vitamin
1. Poor night vision	
2. Bleeding gums	
3. Rickets in children	
4. Beri-Beri	
5. Anaemia	

(b) People suffering from cardiovascular disease having high level of cholesterol in their blood, this often leads to build up of fats on its internal arterial walls, suggests how this might be harmful to the heart (5)

(c) Why the excessive use of chemical fertilizers should be avoided? (5)

(d) Why are Scientists worried about the increase of CO₂ in atmosphere? (5)

Q.3 (a) Differentiate between the renewable and non-renewable sources of energy giving example of each one of them. (5)

(b) Give a brief account of optic fibers. What is their importance in present day telecom system? (5)

(c) What is the most dangerous part of hurricane and how do cyclones affect humans? (5)

(d) What is the difference between vaccines and Antibiotics? How do antibiotics and vaccines contribute to health? (5)

- Q.4** (a) What is the importance of forests in the economy of a country? (5)
- (b) Give a brief account of biotechnology. (5)
- (c) Do the mammals always lay eggs? If yes, where in the world do they live? Write the name some of them. (5)
- (d) How can the sun have such a strong gravitational field if its made of gases? (5)
- Q.5** (a) What does Ozone depletion mean and how can we protect the ozone layer? (5)
- (b) What are the different types of a network? Explain each briefly. (5)
- (c) Why an indiscriminate / causal use of antibiotic may prove dangerous? (5)
- (d) Why do atoms form bonds? Name three major types of chemical bonds. (5)

SECTION – II

- Q.6** (a) Moiz was trying to sleep at one night but there was too much noise around him. His clock ticked every 5 seconds; a tap was dipping every seventh seconds and a pet dog snored every 12th second. He noticed on his clock that all three things happened together on the stroke of midnight. Find after how many seconds are three things happened together (5)
- (b) One pipe can fill a pool 1.25 times as fast as second pipe. When both pipes are opened they can fill the pool in five hours. How long it will take the fill the pool if only slower pipe is used? 5
- (c) The cost of hiring a car for 2 days in 2018 was Rs.264 which was 20% more than in 2013. What was the cost of hiring a car in 2013? (5)
- (d) What do you understand by measure central tendency? State its types. (5)
- Q.7** (a) Moiz and Mair share a lottery win of Rs. 2000 in the ratio of 1:4. Moiz then share this part between himself, his wife and his son.in the ratio of 4:5:1. How much more his wife gets over his son? (5)
- (b) A farmer keeps hens and rabbits on his farm. One day he counted the total of 70 heads and 196 legs. How many more hens than rabbits does he have? (5)
- (c) What is polygon? Describe different types of regular polygon. (5)
- (d) In a certain code computer is written as FRUVQNPC. How will MEDICINE will be written in code language? (5)
- Q.8** (a) Seven Piano Students T U V W X Y & Z are given a recital and their instructor is deciding the order in which they will perform, each student will play exactly one piece, a piano solo. In deciding the order of performance the instructor must observe following restrictions.
- (i) X cannot play first or second
 W cannot have played until X has played
 Neither T nor Y can play Seventh

Either Y & Z must play immediately after W
V must play immediately after, or immediately U Played

(ii) If V play first, which one of the following must be true

- T plays sixth
- X plays third
- Z plays seventh
- T plays after immediately after Y
- W Plays immediately After X

(b) $U = [\text{Whole number from 10 to 24}]$

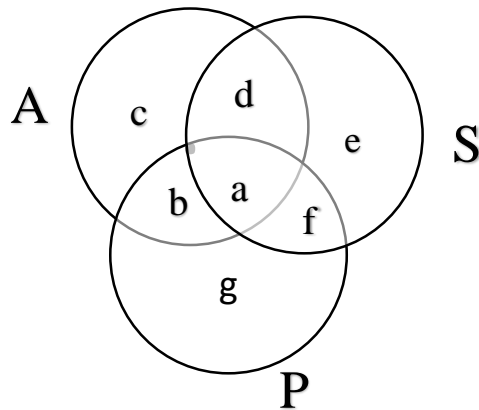
$A = [\text{Even Number}]$

$B = [\text{Number divisible by 5}]$

Write down the number elements of $A \cap B$

(5)

(c) in the following diagram A represent American, S represent scientist and P represents politicians



- (i) American those are politicians but not scientists will be.
- (ii) Scientists which are politicisms but not Americans will be

(d) Each packet of washing powder carries a token and 4 token can be exchanged for free packet,
How many free packets will I receive if I buy sixty four packets? (5)



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

Roll Number

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

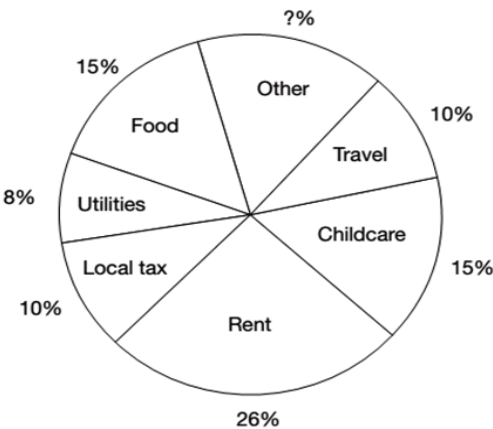
- Q. No. 2.** (A). Describe different methods to estimate the age of the Universe. (5)
(B). Explain the formation of Lunar Eclipse. (5)
(C). Explain the terms Dark Energy and Dark Matter. (5)
(D). Define the term Black Hole. What's expected inside it? (5) (20)
- Q. No. 3.** (A). Describe different causes 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 increase in the quantity of paint would be required to cover an area of 50.4 square meters? (5)
- (B). An automobile travels 3 km towards south, 4 km towards west, 5 km towards north and 2 km towards south-east. How far is it from its starting position? (5)
- (C). Tahir started a business with a capital of Rs. 15,000. After 5 months Umar also joined 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. (5)
- (D). A man left his property of Rs. 640,000. A debt of Rs. 40,000 was due to him and Rs. 5,000 was spent on his burial. Distribute the amount between his widow, one daughter and two sons according to the Islamic Law. (5) (20)

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 family's monthly expenditure do 'utilities', 'rent' and 'food' represent? (5)
- (C). If the family spends Rs.11600 on utilities, how much is the family's total expenditure? (5)
- (D). 'Other' expenditure comprises savings, 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. (20)



- Q. No. 8. (A). Police officers are in pursuit of a stolen vehicle. Officer Baker is directly behind 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? (5)
- (B). Define a Histogram. How is it constructed? What information may be deduced from it? (5)
- (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 HOMEMADE be written in that code language? (5) (20)



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION – 2017
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT

Roll Number

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, 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) What are the factors responsible for environmental pollution? (5)
(B) Briefly explain the main reasons of water-logging in Pakistan. (5)
(C) What do you mean by Ozone depletion and how we can prevent its depletion? (5)
(D) What is an Acid Rain and how it is produced. Briefly describe the dangers associated with it? (5)
- Q. No. 3.** (A) Explain in detail the common causes of Heart Attack. (5)
(B) Differentiate between drug addiction and drug abuse. (5)
(C) Draw the structure of human ear and briefly explain its functions. (5)
(D) What is the significance of Vitamins? Describe the sources, uses and deficiency symptoms of fat soluble vitamins. (5)
- Q. No. 4.** (A) What is a mirage? Describe in detail the creation of mirage. (5)
(B) Differentiate between the occurrence of Lunar and Solar Eclipse? (5)
(C) Briefly explain what effects are produced due to Rotation & Revolution of Earth? (5)
(D) Most of the household appliances utilize ‘DC’ then why we generate ‘AC’ at power stations? (5)
- Q. No. 5.** (A) Differentiate between RAM and ROM. (5)
(B) Name three basic buses employed in a computer and explain what each is used for. (5)
(C) Draw a basic computer block diagram and briefly explain the function of each part. (5)
(D) Describe various types of computers classified on the basis of size, memory, capacity and speed. (5)

SECTION-II

- Q. No. 6.** (A) Differentiate with examples between a “Pictogram” and “Histogram”. (5)
(B) The teachers of a certain school were asked to indicate the average number of hours they spend on marking students assignments each day. The following set of data was obtained (5)
- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 4 | 3 | 1 | 2 | 2 | 3 | 1 | 4 |
| 1 | 2 | 5 | 3 | 4 | 5 | 2 | 2 | 3 |
| | 3 | 1 | 2 | 2 | 3 | 1 | 4 | 2 |
- Construct a frequency table and draw a Histogram illustrating the results.
- (C) How many teachers responded to the survey? (5)
(D) What the longest number of hours and most common number of hours are spent? (5)

GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

- Q. No.7.** (A) A man buys 5kg of meat at Rs.500 per kg. In addition, for every kilogram of meat purchased, he has to pay a consumption tax of 6% on the selling price. Calculate the total amount of money that he has to pay. (5)
- (B) It takes Ali 30 minutes to mark a paper. Aslam only needs 25 minutes to mark a paper. If they both start marking papers at 10:00 AM, at what time they will finish marking at the same time? (5)
- (C) Two bus tickets from Rawalpindi to Islamabad and three tickets from Rawalpindi to Murree cost Rs.770 but three tickets from Rawalpindi to Islamabad and two tickets from Rawalpindi to Murree cost Rs.730. What are the fares for cities Islamabad and Murree from Rawalpindi? (5)
- (D) A told B that C is his father's nephew. D is A's cousin but not the brother of C. What relationship is there between D and C? (5)
-
- Q. No. 8.** (A) Divide Rs.500 between Arham, Mariam and Sarim so that Arham gets $\frac{2}{3}$ of what Mariam gets and Mariam gets $\frac{1}{4}$ of what Sarim gets. Find the share of each. (5)
- (B) A school has enough provision of food for 52 days. After 20 days a group of 400 students arrives and the food would have last for 24 days only. How many students are there in the school actually? (5)
- (C) A man walks 2km towards North. Then he turns to East and walks 10km. After this he turns to North and walks 3km. Again he turns towards East and walks 2km. How far is he from the starting point? (5)
- (D) In a certain code language COMPUTER is written as RFUVQNPC. How will MEDICINE be written in that code language? (5)



**FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION - 2016
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT**

Roll Number

**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 EIGHT questions from PART-II, selecting FIVE questions from SECTION-I and THREE questions from SECTION-II. 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.		

**PART-II
SECTION-I**

- Q. No. 2.** (a) What were the main objectives of Clean Development Mechanism? Also explain the reasons for the criticism on Koyoto Protocol by the developed countries. (5)
- (b) Differentiate between Sanitary and Industrial Landfills, also describe the land selection criteria for Landfills. (5)
- Q. No. 3.** (a) Write a short note on artificial intelligence. (5)
- (b) Write short notes on: (2½ each) (5)
- (i) Fibre Optics (ii) Global Positioning System
- Q. No. 4.** (a) What are vaccines? Classify these and discuss DNA vaccines in detail. (5)
- (b) What are causative organism and vector for dengue, enlist possible ways of prevention from dengue. (5)
- Q. No. 5.** (a) Comment, 'liver is the chief chemist in human body'. (5)
- (b) What is Cholesterol? Discuss its importance, normal blood level and dangers of elevated levels with reference to the health and disease in humans. (5)
- Q. No. 6.** (a) What do you know about the Remote Sensing Techniques? Explain resolution and write down the names of its various types? (5)
- (b) What is hydrological cycle? Discuss its importance. (5)
- Q. No. 7.** (a) What is tsunami? How the tsunamis generated and what are their characteristics? (5)
- (b) What is an earth quake? Discuss Richter Scale in this context. What was the intensity of the earth quake in Pakistan dated 26 October 2015 and where was the locus? (5)
- Q. No. 8.** (a) Explain the shape of water molecule with the help of Molecular Orbital Theory, also draw its orbital diagram. (5)
- (b) What are the gamma rays? Explain their applications. (5)
- Q. No. 9.** (a) Discuss importance of preservatives and antioxidants in food. (5)
- (b) Comment, Green House Effect is a blessing. Also discuss Enhanced Green House Effect and its relation with global warming. (5)

GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

SECTION-II

- Q. No. 10.** (a) Define and draw the following: (2½ each) (5)
(i) Rightangle triangles (ii) Equilateral triangles
(b) There are nine students in a group having ages 15, 15, 16, 16, 16, 17, 17, 18, 19. Calculate *mean*, *medium*, *mode* and *range* of their ages also define the above mentioned terms: (5)

- Q. No. 11.** (a) A distribution company provides households to departmental stores within a 50 kilometers radius. The table below shows how far each departmental store is from the godown of the distribution company. (5)

Distance from the godown of the distribution company	Number of Stores
10 kilometers or less	03
11 to 20 kilometers	15
21 to 30 kilometers	26
31 to 40 kilometers	20
41 to 50 kilometers	16

- (i) How many stores does the distribution company serve?
(ii) What is the most common distance of stores from the company's godown?
(iii) How many stores are 35 Km or more from the godown?
(iv) What percentage of stores are 31 Km or more from the godown?
(b) Read the following carefully and answer the questions following: (5)
Ahmad, Ali, Akbar, Nasir and Shehbaz are students of a college having different heights and weights. Ahmad weighs thrice as much as Ali and Ali weighs 5 times as much as Akbar. Akbar weighs half as much as Nasir and Nasir weighs half as much as Shehbaz.
(i) Who is the heaviest in weight?
(ii) Who is the is the lightest in weight?
(iii) Shehbaz is lighter in weight than which of the two students?
(iv) Shehbaz is heavier than which of the two students?
(v) Show the descending order of weights of the students?

- Q. No. 12.** (a) Classification of blood groups is based on the presence or absence of inherited antigenic substances on the surface of red blood cells. In a survey of British population the blood group distribution among 1000 people was as follows: 300 had blood group A, 325 had blood group B, 250 had O and 125 AB. Out of this group a person was selected at random, calculate his probability of having blood group AB (5)
(b) Five friends Ahmad, Ali, Akbar, Nasir and Shehbaz went on summer vacation to five cities namely V, W, X, Y and Z by five different modes of transport, that is by bus, train, aeroplane, car and boat from point A. Akbar went to Y by car and Ali went to X by air. Nasir travelled by boat whereas Shehbaz went by train. For X and W there is no bus service. The person who went to X did not use boat to travel. Now answer the following questions. (5)
(i) How did Ahmad travel and where did he go?
(ii) Which mode of transport was used by the person who travelled to X city?

- Q. No. 13.** (a) Differentiate between primary and secondary mental abilities. How the general mental ability scales differ from IQ test. (5)
(b) $Y = mX + C$ is an equation of straight line. Draw a graph showing relationship between X and Y and relate the equation to the slope and intercept on the graph. (5)



FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR

RECRUITMENT TO POSTS IN BS-17

UNDER THE FEDERAL GOVERNMENT, 2015

GENERAL KNOWLEDGE, PAPER-I

(EVERY DAY SCIENCE)

Roll Number

TIME ALLOWED: THREE HOURS

PART-I(MCQs) : MAXIMUM 80 MINUTES

(PART-I MCQs)

MAXIMUM MARKS: 50

(PART-II)

MAXIMUM MARKS: 50

NOTE:(i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt **ONLYT FIVE** questions from **PART-II**. All questions carry **EQUAL** Marks

(iii) Candidate must write **Q. No.** in the **Answer Book** in accordance with **Q. No.** in the **Q. Paper**.

(iv) All the parts(if any) of each Question must be attempted at **One Place** instead of at different places.

(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.

PART-II

- Q.2.** (a) libn-e Batoota's famous book Rihalah is an important source of history and geography. Justify it. (5)
- (b) Albarouni is recognized more as natural scientist rather theorist. Comment. (5) **(10)**
- Q.3.** (a) How solar eclipse and lunar eclipse are caused? (5)
- (b) Discuss the function of kidneys in human body. (5) **(10)**
- Q.4.** (a) Describe briefly the principle working of two of the followings
(i) Television (ii) Microwave oven (iii) RADAR (5)
- (b) What is current status and future perspective of BIOTECHNOLGY in Pakistan? (5) **(10)**
- Q.5.** (a) What do mean by night vision technology? (5)
- (b) How Energy crises can be minimized in Pakistan. (5) **(10)**
- Q.6.** (a) Write short note on Seismography. (5)
- (b) Differentiate between
(i) Cell and battery (ii) Smog and Smoke (5) **(10)**
- Q.7.** (a) What do you understand by Pollen Allergy. (5)
- (b) Write down short note on any two of the following.
(i) Antibiotics (ii) Hormones (iii) Green House effect? (5) **(10)**
- Q.8.** (a) Write down note on Forensic Science and Criminology. (5)
- (b) What are fertilizers? What do you understand by NPK Fertilizers? (5) **(10)**
- Q.9.** (a) What is Anemia? What are its symptoms and causes? (5)
- (b) Write short note on space shuttle. (5) **(10)**



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT, 2014
GENERAL KNOWLEDGE, PAPER-I
(EVERYDAY SCIENCE)

Roll Number

TIME ALLOWED:	(PART-I MCQs)	80 MINUTES	MAXIMUM MARKS: 50
THREE HOURS	(PART-II)	100 MINUTES	MAXIMUM MARKS: 50
NOTE: (i) Part-II is to be attempted on the separate Answer Book . (ii) Attempt ONLY FIVE questions from PART-II . ALL questions carry EQUAL marks. (iii) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper . (iv) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed. (v) Extra attempt of any question or any part of the attempted question will not be considered.			

PART-II

- Q. No. 2.** Discuss the contribution of Muslim scientists in the development of Astronomy, Algebra and Trigonometry. **(10)**
(3, 3^{1/2}, 3^{1/2} each)
- Q. No. 3.** Give brief answers to the following questions: **(2 each)** **(10)**
(a) Why do we bring our hands close to our mouth while shouting across to someone far away?
(b) Why do we lean forward while climbing a hill?
(c) Why does a swimming pool appear less deep than it actually is?
(d) Why cannot petrol fire be extinguished by water?
(e) Why do Australians celebrate their Christmas during summer?
- Q. No. 4.** Differentiate between: **(2 each)** **(10)**
(a) Hypoglycemia and Hyperglycemia
(b) Renewable and Non-renewable energy resources
(c) Lava and Magma (d) Mist and Fog (e) Lunar Eclipse and Solar Eclipse
- Q. No. 5.** Briefly explain the working principle of the following: **(5 each)** **(10)**
(a) Radar (b) Microwave Oven
- Q. No. 6.** Give brief explanations for following phenomena: **(2 each)** **(10)**
(a) While watching a cricket match we see the ball struck a moment before we hear the sound of the bat hitting the ball.
(b) A ship though made largely of steel, which is heavier than water, floats in water.
(c) The colour of the same cloth when seen in electric light appears different from the colour when seen in day light.
(d) Glass when heated cracks while metal does not.
(e) Although each eye perceives a separate image, we do not see everything double.
- Q. No. 7.** Write short NOTES on the following: **(5 each)** **(10)**
(a) Environmental effects of Fertilizer use. (b) Global Warming.
- Q. No. 8.** Differentiate between: **(2 each)** **(10)**
(a) Smog and Smoke (b) Radiotherapy and Chemotherapy
(c) Diastolic and Systolic blood pressure (d) Infection and Allergy
(e) Conductors and Insulators
- Q. No. 9.** Briefly explain the function of following in human body: **(2^{1/2} each)** **(10)**
(a) Kidneys (b) Lymphatic system
(c) Thyroid gland (d) Pituitary gland



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT, 2013
GENERAL KNOWLEDGE, PAPER-I
(EVERYDAY SCIENCE)

Roll Number

TIME ALLOWED: THREE HOURS	(PART-I MCQs)	80 MINUTES	MAXIMUM MARKS: 50
	(PART-II)	100 MINUTES	MAXIMUM MARKS: 50
NOTE: (i) First attempt PART-I (MCQs) on separate OMR Answer Sheet which shall be taken back after 80 minutes. (ii) Overwriting/cutting of the options/answers will not be given credit.			

PART-I ((MCQS)(COMPULSORY)

Q.1. (i) Select the best option/answer and fill in the appropriate Circle ● on the **OMR Answer Sheet. (50x1=50)**
(ii) Answers given anywhere, other than OMR Answer Sheet, shall not be considered.

1. Who proposed the concept “ All motion is relative ” ?
(a) Albert Einstein (b) John Kepler (c) Galileo Galilie (d) None of these
2. The field of specialization of famous Muslim scientist Abu Usman Aljahiz was :
(a) Botany (b) Zoology (c) Astronomy (d) None of these
3. Albatros is:
(a) A sea bird (b) A beetle (c) A fruit (d) None of these
4. The sunlight can reach a depth of ----- meters in the ocean :
(a) 100 (b) 80 (c) 120 (d) None of these
5. The biggest planet in our solar system is:
(a) Venus (b) Pluto (c) Jupiter (d) None of these
6. The biggest species of the cat family is:
(a) Tiger (b) Lion (c) Leopard (d) None of these
7. Which group of animals has heterogametic females?
(a) Domestic fowl (b) Earthworm (c) Rabbit (d) None of these
8. The dominant phase of life cycle in these organisms is haploid:
(a) Mosses (b) Bacteria (c) Protozoa (d) None of these
9. The atmosphere of moon consists of:
(a) 90% Hydrogen, 10% Nitrogen (b) 80% Nitrogen, 20% Hydrogen (c) 60% Nitrogen, 40% inert gases (d) None of these
10. The chemical name of quartz is:
(a) Silicon Dioxide (b) Stannous oxide (c) Aluminium Oxide (d) None of these
11. Which month of a calendar year can lack a new moon?
(a) December (b) February (c) May (d) None of these
12. Deuterium differs from hydrogen in having:
(a) Different atomic number but same atomic weight (b) Different atomic number and different atomic weight
(c) Same atomic number but different atomic weight (d) None of these
13. One of the following is a water soluble vitamin:
(a) Vitamin A (b) Vitamin K (c) Vitamin D (d) None of these
14. Coulomb is the scientific unit to measure:
(a) Velocity (b) Temperature (c) Mass (d) None of these
15. Equator passes through one of these countries:
(a) Saudi Arabia (b) Italy (c) Japan (d) None of these
16. Anti Diuretic hormone is secreted by one of the following glands:
(a) Pituitary (b) Pancreas (c) Thyroid (d) None of these
17. Basha Dam is to be constructed on:
(a) River Sutlaj (b) River Jhelum (c) River Chenab (d) None of these
18. UV light falls in the category of:
(a) Ionizing Radiations (b) Non-Ionizing Radiations (c) Visible Light (d) None of these
19. The earth’s -----is divided into 15 major plates of various sizes:
(a) Mesosphere (b) Stratosphere (c) Lithosphere (d) None of these
20. One of these scientists formulated basic laws of Geometry:
(a) Pythagorus (b) Archimedes (c) Aristotle (d) None of these
21. Phosphorus is an essential component of one of the following biological molecules:
(a) Amino acids (b) Nucleic acids (c) Carbohydrates (d) None of these
22. He was the first scientist to prove that planets move around the sun:
(a) Archimedes (b) Galileo Galilei (c) John Kepler (d) None of these
23. Atom is made up of ----- different kinds of subatomic particles:
(a) Three (b) Two (c) Four (d) None of these
24. Uranium is best used as nuclear fuel in one of the following forms:
(a) U^{235} (b) U^{237} (c) U^{238} (d) None of these
25. The Alpha particles are compact clusters of:
(a) Electrons and Protons (b) Two Protons and Two Neutrons (c) Three Protons and Three Neutrons (d) None of these
26. The Beta particles are fast moving:
(a) Protons (b) Neutrons (c) Electrons (d) None of these
27. One of the following countries produces maximum energy from atomic reactors:
(a) France (b) USA (c) UK (d) None of these

EVERYDAY SCIENCE GENERAL KNOWLEDGE, PAPER-I

28. The unit to measure the quantity of Ozone in the atmosphere is:
(a) Dobson (b) Dalton (c) Coulomb (d) None of these
29. The severity of 2005 earthquake of Pakistan on Richter Scale was:
(a) 6.9 (b) 7.6 (c) 7.1 (d) None of these
30. Geiger-Muller Counter is used to detect:
(a) Protons (b) Neutrons (c) Photons (d) None of these
31. Vacuum tubes have been replaced by:
(a) Conductors (b) Diodes (c) Transistors (d) None of these
32. Dacron is:
(a) Polyethylene (b) Epoxy (c) Polyamide (d) None of these
33. It is a secondary plant nutrient:
(a) Nitrogen (b) Phosphorus (c) Sulphur (d) None of these
34. An area of microbiology that is concerned with the occurrence of disease in human population is:
(a) Immunology (b) Parasitology (c) Epidemiology (d) None of these
35. The number of electrons of a neutral atom is automatically known if one knows the:
(a) Atomic number (b) Atomic weight (c) Number of orbitals (d) None of these
36. Which of the following is not an enzyme?
(a) Chymotrypsin (b) Secretin (c) Pepsin (d) None of these
37. It is impossible for a type O⁺ baby to have a type _____ mother.
(a) AB⁻ (b) O⁻ (c) O⁺ (d) None of these
38. Serum is blood plasma minus its:
(a) Calcium ions (b) Clotting proteins (c) Globulins (d) None of these
39. The autonomic nervous system innervates all of these except:
(a) Cardiac muscles (b) Skeletal muscles (c) Smooth muscles (d) None of these
40. The damage to the _____ nerve could result in the defect of the eye movement:
(a) Optic (b) Trigeminal (c) Abducens (d) None of these
41. Which of these is not a region of the spinal cord?
(a) Thoracic (b) Pelvic (c) Lumbar (d) None of these
42. The shape of the external ear is due to:
(a) Elastic cartilage (b) Fibrocartilage (c) Articular cartilage (d) None of these
43. The external surface of the stomach is covered by:
(a) Mucosa (b) Serosa (c) Parietal peritoneum (d) None of these
44. Which of the following is not a human organ system?
(a) Integumentary (b) Muscular (c) Epithelial (d) None of these
45. Which of the following does not vary predictably with the depth of the aquatic environment?
(a) Salinity (b) Temperature (c) Penetration by sunlight (d) None of these
46. The quantity of available nutrients _____ from the lower levels of the energy pyramids to the higher ones.
(a) Increases (b) Decreases (c) Remains stable (d) None of these
47. Which of the following is not a major subdivision of the biosphere?
(a) Hydrosphere (b) Lithosphere (c) Stratosphere (d) None of these
48. Vaccination is synonymous with _____ immunity.
(a) Natural active (b) Artificial passive (c) Artificial active (d) None of these
49. When a patient's immune system becomes reactive to a drug, this is an example of:
(a) Superinfection (b) Drug resistance (c) Allergy (d) None of these
50. What is the smallest unit of heredity?
(a) Chromosomes (b) Gene (c) Nucleotide (d) None of these

PART-II

NOTE:(i)	Part-II is to be attempted on the separate Answer Book .
(ii)	Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper .
(iii)	Attempt ONLY FIVE questions from PART-II . ALL questions carry EQUAL marks .
(iv)	Extra attempt of any question or any part of the attempted question will not be considered.

- Q.No.2.** (a) “The flood disaster in Pakistan is caused by the follies of humans “. Comment. (05)
(b) State the message of “The Earth Hour Movement”. (05)
- Q.No.3.** (a) Porifera is an ancient group of animals from Cambrian period. What is the cause of their survival /success? (05)
(b) How heavy water differs from ordinary water and what is its use in the Atomic Reactor? (05)
- Q.No.4.** What part do antibodies play in allergic reactions? How vaccination can be helpful in its control/ prevention? (10)
- Q.No.5.** (a) Differentiate between Renewable and Non-renewable sources of energy. Give examples of each one of them. (05)
(b) Why Nuclear Energy is being preferred in developed countries and why are we lagging behind in this important source of energy? (05)
- Q.No.6.** (a) What is Nanotechnology and what are its uses? (05)
(b) Briefly explain the differences between Chemotherapy and Radiotherapy. (05)
- Q.No.7.** Write comprehensive notes on:
(a) LASER and their uses. (b) OPTIC FIBRES and their importance in modern telecom system. (5 each)
- Q.No.8.** Write all that you know about Pesticides. How are they classified by agronomists? (10)
- Q.No.9.** Write note on: (a) Biotechnology (b) Global Warming (5 each)

FEDERAL PUBLIC SERVICE COMMISSION



**COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT, 2012
GENERAL KNOWLEDGE, PAPER-I
(EVERYDAY SCIENCE)**

Roll Number

TIME ALLOWED:	(PART-I MCQs)	80 MINUTES	MAXIMUM MARKS: 50
THREE HOURS	(PART-II)	100 MINUTES	MAXIMUM MARKS: 50
NOTE: (i) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper. (ii) Overwriting/cutting of the options/answers will not be given credit.			

PART-II

NOTE:(i) **PART-II** is to be attempted on separate Answer Book.
(ii) **Attempt ONLY FIVE questions from PART-II. All questions carry EQUAL marks.**
(iii) **Extra attempt of any question or any part of the attempted question will not be considered.**

- Q. 2.** Write briefly about two or more major achievements of each of the following two famous Muslim scientists: **5x 2=10**
- (a) Abu Abdullah Mohammad Bin Musa Al Khwarizmi
- (b) Abu Ali Al Hassan ibn Al Hassan Al Haytham
- Q. 3.** (a) List four or more physical characteristics of the Earth. **(05)**
(b) Briefly explain how Seasons and Ocean Tides are produced on the Earth? **(05)**
- Q. 4.** (a) Very briefly explain the difference between Earthquakes, Volcanic eruptions, Floods and Tsunamis. **(05)**
(b) Briefly explain the difference between Sedimentary and Metamorphic rocks. **(05)**
- Q. 5.** (a) Very briefly explain the difference between an Insulator, a Conductor, a Semiconductor and a Superconductor. **(05)**
(b) Briefly explain the difference between a Laser and a Photovoltaic Cell. **(05)**
- Q. 6.** (a) Briefly explain the difference between an Antibiotic, an Antiviral Drug, a Pesticide and a Vaccine. **(05)**
(b) List any two of the three things that the MMR vaccine protects against. List any two other vaccines given to children. **(05)**
- Q. 7.** (a) Briefly explain how Photosynthesis works. **(05)**
(b) Briefly explain the Nitrogen Cycle in nature. **(05)**
- Q. 8.** (a) Differentiate between the following: **(05)**
Deoxyribonucleic Acids (DNA)
Messenger Ribonucleic Acids (mRNA)
Proteins
(b) Explain how DNA, mRNA and Proteins are interrelated to each other. **(05)**
- Q. 9.** (a) Explain what is meant by a balanced diet? **(05)**
(b) Give the major function of the following micronutrients: **(05)**
Vitamin A
Vitamin C
Iron
Calcium
Iodine

FEDERAL PUBLIC SERVICE COMMISSION



**COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT, 2011
GENERAL KNOWLEDGE, PAPER-I
(EVERYDAY SCIENCE)**

Roll Number

TIME ALLOWED:	(PART-I MCQs)	80 MINUTES	MAXIMUM MARKS: 50
THREE HOURS	(PART-II)	100 MINUTES	MAXIMUM MARKS: 50
NOTE: (i) First attempt PART-I (MCQs) on separate Answer Sheet which shall be taken back after 80 minutes.			
(ii) Overwriting/cutting of the options/answers will not be given credit.			

(PART-I MCQs) (COMPULSORY)

Q.1. Select the best option/answer and fill in the **appropriate box** on the **answer sheet**. **(1 x 50 = 50)**

- (1) The planet of the solar system which has maximum number of Moon is:
 - (a) Jupiter
 - (b) Venus
 - (c) Saturn
 - (d) Uranus
 - (e) None of these.
- (2) Sun is a:
 - (a) Planet
 - (b) Comet
 - (c) Satellite
 - (d) Aurora
 - (e) None of these.
- (3) The age of the solar system is:
 - (a) 4.5 billion years
 - (b) 5.5 billion years
 - (c) 6.5 billion years
 - (d) 7.5 billion years
 - (e) None of these.
- (4) A unit of length equal to the average distance between the Earth and Sun is called:
 - (a) Light year
 - (b) Astronomical unit
 - (c) Parsec
 - (d) Parallax
 - (e) None of these.
- (5) An eclipse of the Sun occurs when:
 - (a) The Moon is between the Sun and the Earth
 - (b) The Sun is between the Earth and the Moon
 - (c) The Earth is between the Sun and the Moon
 - (d) The Earth casts its shadow on the Moon
 - (e) None of these.
- (6) The ozone layer protects the Earth from rays sent down by the Sun:
 - (a) Ultraviolet rays
 - (b) Infrared rays
 - (c) Gamma rays
 - (d) Radioactive rays
 - (e) None of these.
- (7) The ozone layer is present about 30 miles (50 Km) in atmosphere above the Earth. The stratum (layer) of atmosphere in which ozone layer lies is called as:
 - (a) Exosphere
 - (b) Mesosphere
 - (c) Stratosphere
 - (d) Ionosphere
 - (e) Troposphere
- (8) Which rocks are formed by the alteration of pre-existing rocks by great heat or pressure?
 - (a) Igneous rocks
 - (b) Sedimentary rocks
 - (c) Metamorphic rocks
 - (d) Acid rocks
 - (e) Basic rocks.
- (9) The most abundant natural Iron Oxides are:
 - (a) Magnetite and Pyrite
 - (b) Magnetite and Bauxite
 - (c) Hematite and Pyrite
 - (d) Hematite and Magnetite
 - (e) Hematite and Bauxite
- (10) The two most abundant elements in sea water are:
 - (a) Sodium and Potassium
 - (b) Sodium and Calcium
 - (c) Sodium and Chlorine
 - (d) Chlorine and Iodine
 - (e) Magnesium and Sulphur
- (11) An electric current can produce:
 - (a) Chemical effect
 - (b) Magnetic effect
 - (c) Heating effect
 - (d) All of these three
 - (e) None of these.

GENERAL KNOWLEDGE, PAPER-I (EVERYDAY SCIENCE)

- (12) The unit of home electricity energy consumption is:
(a) Watt hour (b) Kilowatt hour (c) Joule hour
(d) Kilojoule hour (e) None of these.
- (13) The magnet always points in the same direction, if allowed to move freely i.e. towards North and South poles, because of:
(a) Gravitational field (b) A lot of metal deposits on North and South Poles
(c) Due to attraction of North Pole and repulsion of Western Pole
(d) Earth is a huge magnet (e) None of these.
- (14) When sound is reflected from floor, ceiling or a wall, it mixes with the original sound and changes its complexion, it is called as:
(a) Sound (b) Echo (c) Reverberation (d) Noise (e) None of these.
- (15) The speed of sound in dry air at 20 °C is about:
(a) 130 meters per second (b) 230 meters per second (c) 330 meters per second
(d) 430 meters per second (e) None of these.
- (16) The speed of light in vacuum is about:
(a) 300 Million meters per second (b) 300 Million meters per hour
(c) 300 Million kilometres per second (d) 300 Million kilometres per hour (e) None of these.
- (17) The time, light takes from the Sun to reach Earth is:
(a) 8 minutes (b) 25 minutes (c) 45 minutes (d) 60 minutes (e) None of these.
- (18) Light from the Sun travels a distance before it reaches the Earth :
(a) 50 million Km (b) 100 million Km (c) 150 million Km
(d) 200 million Km (e) None of these.
- (19) The most suitable thermometer for measuring the boiling point of water is:
(a) Mercury thermometer (b) Alcohol thermometer (c) Bimetallic thermometer
(d) Liquid crystal thermometer (e) None of these.
- (20) The density of water is greatest at:
(a) -32 °C (b) 0 °C (c) 4 °C (d) 100 °C (e) None of these.
- (21) Which one of the following statements is true?
(a) Gases do not conduct heat (b) The best conductors are non-metals
(c) Conduction currents occur only in liquids (d) A vacuum can not conduct heat
(e) None of the statements is true.
- (22) Ice can be changed to water by:
(a) Adding more water molecules (b) Changing the motion of the water molecules
(c) Rearranging the atoms in water molecules (d) Destroying the atoms in water molecules
(e) None of these.
- (23) The building blocks of elements are called:
(a) Atoms (b) Molecules (c) Compounds (d) Isotopes (e) None of these.
- (24) Boiling of an egg is a change which is:
(a) Physical (b) Chemical (c) Physiological (d) Morphological
(e) None of these.
- (25) The temperature of liquid Nitrogen is:
(a) -32 °C (b) -80 °C (c) -100 °C (d) -196 °C (e) None of these.
- (26) Which one of the following is an alkali?
(a) Water (b) Vinegar (c) Lemon juice (d) Slaked lime
(e) None of these.
- (27) If an alkali is slowly added to an acidic solution, the pH of the acidic solution will:
(a) Increase (b) Decrease (c) Increase to 7 and then decrease
(d) Decrease to 7 and then increase (e) Will remain same.

GENERAL KNOWLEDGE, PAPER-I (EVERYDAY SCIENCE)

- (28) The usual raw material for ceramics, generally found beneath the top soil is?
(a) Sand (b) Silt (c) Clay (d) Plaster of Paris (e) Melamine.
- (29) Polyamides are synthetic polymers commonly known as:
(a) Synthetic rubber (b) Nylon (c) Cellulose (d) Protein (e) None of these.
- (30) Telephone was invented in 1876 in America by:
(a) Marconi (b) Galileo (c) John Beard (d) Edison (e) Graham Bell.
- (31) Information can be sent over long distances in the form of:
(a) Electrical signals through wires (b) Light signals through optical fibres
(c) Radio waves through air (d) Any combination of these three (e) None of these.
- (32) Information can be stored in:
(a) Audio and video cassettes (b) Floppy and compact discs (c) Hard disks
(d) Laser and optical disks (e) All of these four.
- (33) Computers can:
(a) Add and subtract information only (b) Add, subtract and sort information only
(c) Add, subtract, sort and classify information (d) Add and subtract but cannot sort information
(e) Add, subtract and sort but cannot classify information.
- (34) IBM stands for:
(a) International Business Machines (b) International Big Machines
(c) Interrelated Business Machines (d) Interrelated Big Machines (e) None of these.
- (35) Chemicals used to kill weeds are called as:
(a) Insecticides (b) Fungicides (c) Herbicides
(d) Fumigants (e) None of these.
- (36) The cytoplasm consists of several types of structures, which are called:
(a) Protoplasm (b) Nucleus (c) Cytochromes
(d) Organelles (e) None of these.
- (37) The structure of DNA was elaborated by Watson and Crick in:
(a) 1909 (b) 1923 (c) 1945 (d) 1953
(e) None of these.
- (38) In a DNA molecule, the rule for base pairing is:
(a) Adenine always bound with thymine and cytosine with guanine
(b) Adenine always bound with cytosine and thymine with guanine
(c) Adenine always bound with guanine and cytosine with thymine
(d) Adenine always bound with uracil and cytosine with guanine
(e) None of these.
- (39) Man belongs to the family:
(a) Felidae (b) Hominidae (c) Mammalia (d) Primataceae (e) None of these.
- (40) Deficiency of vitamin C in the human body causes a deficiency disease called:
(a) Beriberi (b) Night blindness (c) Rickets (d) Scurvy (e) None of these.
- (41) To measure the specific gravity of milk, the instrument used is:
(a) Hygrometer (b) Barometer (c) Lactometer (d) Hydrometer (e) None of these.
- (42) One of the fundamental characteristics of living organisms is:
(a) Photosynthesis (b) Digestion (c) Excretion (d) Metabolism (e) None of these.
- (43) Plants growing on other plants are called as:
(a) Saprophytes (b) Parasites (c) Epiphytes (d) Pathogens (e) None of these.
- (44) As per eating habit, squirrels are:
(a) Frugivorous (b) Herbivorous (c) Carnivorous (d) Omnivorous
(e) Insectivorous.

GENERAL KNOWLEDGE, PAPER-I (EVERYDAY SCIENCE)

- (45) Water loss from leaves through stomata is called as:
(a) Evaporation (b) Transpiration (c) Evapo-transpiration (d) Respiration
(e) None of these.
- (46) The study of how plants and animals interact with one another and with the non-living environment is called as:
(a) Ecosystem (b) Sociology (c) Ecology (d) Habitat (e) None of these.
- (47) The number of bones in human body is:
(a) 200 (b) 202 (c) 204 (d) 206 (e) None of these.
- (48) Nervous system in human body consists of:
(a) Brain and spinal cord (b) Brain and nerves (c) Spinal cord and nerves
(d) Brain, spinal cord and nerves (e) None of these.
- (49) In human eye, the light sensitive layer made of specialized nerve cells, the rods and cones is called as:
(a) The pupil (b) The cornea (c) The sclera (d) The iris (e) The retina.
- (50) Erythrocytes are also called as:
(a) Red blood cells (b) White blood cells (c) Platelets
(d) Plasma (e) None of these.

PART-II

NOTE: (i) **PART-II** is to be attempted on separate Answer Book.
(ii) **Attempt ONLY FIVE questions from PART-II. All questions carry EQUAL marks.**
(iii) **Extra attempt of any question or any part of the attempted question will not be considered.**

- Q.2.** Write short note on the following Muslim scientists by giving their exact life span and contribution to the field of science:- (5 x 2 = 10)
(a) Jabar-bin-Hayan (b) Bu Ali Sina
- Q.3.** Differentiate between any **FIVE** of the following pairs:- (5 x 2 = 10)
(a) Typhoons and Tornadoes (b) Microscope and Telescope (c) Ultrasonics and Infrasonics
(d) Hard water and Heavy water (e) Isotopes and Isomers (f) Antibodies and Antibiotics
(g) Antigen and Vaccine
- Q.4.** (a) What is a galaxy? The Earth belongs to which galaxy? (1+1 = 2)
(b) Briefly describe what is big bang theory. (4)
(c) Do you think that Pluto is still ninth planet of our solar system? If yes, how and if not why? (1+3)
- Q.5.** (a) Basically how many forms of energy are there? Also name these. (1+1 = 2)
(b) Enlist different types of energy. (4)
(c) Why are scientists trying to find alternate energy sources? (2)
(d) What is a renewable energy source? Quote three examples of renewable energy sources. (2)
- Q.6.** Is plastic a natural or an artificial polymer? Describe various types of plastics and their uses. (10)
- Q.7.** (a) What do the following abbreviations stand for:
(i) LAN (ii) HTTP (iii) HTML (iv) PDF (v) URL (1 x 5 = 5)
(b) Differentiate between natural and artificial satellites. For what purpose artificial satellites are used? (5)
- Q.8.** (a) What is the main function of: (1 x 5 = 5)
(i) Ribosome (ii) Mitochondria (iii) Lysosomes (iv) Chloroplasts
(v) Golgi apparatus
(b) Give habitats of following animals: (1 x 5 = 5)
(i) Rattle snake (ii) Ostrich (iii) Platypus (iv) Rhinoceros
(v) Chimpanzee.
- Q.9.** Write short notes on the following:- (2 x 5 = 10)
(a) Nucleic acids (b) Fertilizers (c) Semiconductors (d) Microwave oven (e) Internet

GENERAL KNOWLEDGE PAPER-I**FEDERAL PUBLIC SERVICE COMMISSION**
**COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2010**
**GENERAL KNOWLEDGE PAPER-I
(EVERY DAY SCIENCE)**
Roll Number

TIME ALLOWED:	(PART-I) 80 MINUTES	MAXIMUM MARKS:50
	(PART-II) 100 MINUTES	MAXIMUM MARKS:50

- NOTE:**
- (i) First attempt **PART-I (MCQ)** on separate **Answer Sheet** which shall be taken back after **80 minutes**.
 - (ii) **Overwriting/cutting of the options/answers will not be given credit.**

**PART – I (MCQs)
(COMPULSORY)**

Q.1. Select the best option/answer and fill in the appropriate Box on the Answer Sheet: (50)

- (1) Water is heated in a kettle. The inside water is heated by convection. A person sitting near the fire receives heat by.
(a) Conduction (b) Convection (c) Radiation (d) Reflection (e) None of these
- (2) A time can come when we will be able to design a machine which can go on working for ever without the expenditure of energy. Is it possible?
(a) No (b) Yes (c) In due course of time (d) Very soon (e) None of these
- (3) The measurement of rainfall is made by an instrument known as:
(a) Hygrometer (b) Barometer (c) Hydrometer (d) Pedometer (e) None of these
- (4) Light year is a unit of:
(a) Distance (b) Time period (c) Light intensity (d) Time (e) None of these
- (5) Three elements needed for the healthy growth of plants are:
(a) N, P, K (b) N, C, P (c) N, K, C (d) N, S, P (e) None of these
- (6) Copper can be converted into gold by:
(a) Heating (b) Artificial Radioactivity (c) Electroplating (d) Chemical Reaction (e) None of these
- (7) In winter an iron pipe feels colder than a wooden window. This is because wood is:
(a) Conductor (b) Non-Conductor (c) Semi-Conductor (d) Not a solid while iron is a solid (e) None of these
- (8) The echo(reflected sound) will be distinctly heard only at ordinary temperatures if the distance of the reflecting surfaces from the source of sound is at least:
(a) 1120 ft (b) 120 ft (c) 56 ft (d) 100 ft (e) None of these
- (9) It is possible to recognize a person in the dark by simply hearing his unique voice. It is because of the:
(a) Pitch (b) Frequency (c) Time period (d) Quality (e) None of these
- (10) When a ray of sunlight enters a dark room, its straight path becomes visible because of dust particles hanging in the air. It is because light is:
(a) Visible (b) Transparent (c) Invisible (d) Opaque (e) None of these
- (11) A six feet tall lady wants to see her full image in a plane mirror. The minimum length of the mirror will be:
(a) 6 feet (b) 12 feet (c) 4 feet (d) 3 feet (e) None of these
- (12) The principle used in radar is the same as that of Sonar. In radar we use radio waves; whereas in Sonar we use:
(a) Red Waves (b) Infrared Waves (c) Ultrasonic (d) Supersonic (e) None of these

GENERAL KNOWLEDGE PAPER-I

- (13) In a fission nuclear reaction, a heavy nucleus breaks up into smaller nuclei whereas in another nuclear reaction two or more than two possibly nuclei are fused to form a heavy nucleus. This nuclear reaction is called:
(a) Chemical Reaction (b) Nuclear Reaction (c) Fission nuclear reaction
(d) Fusion nuclear reaction (e) None of these
- (14) Parsec is a unit of:
(a) Energy (b) Time (c) Power (d) Distance (e) None of these
- (15) German Silver is an alloy of:
(a) Zn + Ni (b) Cu + Zn (c) Cu + Ni (d) Cu + Sn (e) None of these
- (16) The Continent Antarctica lies at the:
(a) North pole (b) South pole (c) Middle of the earth (d) Equator (e) None of these
- (17) The temperature of the dead body is:
(a) 0°C (b) 37°C (c) room temperature
(d) temperature of the place where it is kept (e) None of these
- (18) Lactometer is a type of hydrometer which is used to measure the specific gravity of:
(a) Honey (b) Water (c) Milk (d) Olive Oil (e) None of these
- (19) Cusec is a unit of:
(a) Area (b) Time (c) Distance (d) Mass (e) None of these
- (20) The deepest place on earth is:
(a) Trench (b) Mariana Trench (c) Mangrove (d) Groove (e) None of these
- (21) Twinkling of stars is caused by the:
(a) Reflection of light (b) Polarization of light (c) Refraction of light
(d) Interference of light (e) None of these
- (22) Magnifying power of a simple microscope can be increased by:
(a) Increasing focal length of the lens (b) Decreasing focal length of the lens
(c) Lens of large aperture (d) Lens of short aperture (e) None of these
- (23) Bronze medal is made up of metals:
(a) Copper, Nickel (b) Copper, Tin (c) Copper, Silver (d) Copper, Zinc (e) None of these
- (24) One of the countries through which equator passes is:
(a) Kenya (b) Pakistan (c) Malaysia (d) Malta (e) None of these
- (25) A very important practical application of properties of matter is hoeing or “godhi” practiced by the farmers. This property of matter is called:
(a) Elasticity (b) Stress (c) Capillarity (d) Strain (e) None of these
- (26) It is observed that the total pressure exerted by air on the man of average size is around 14.7 lb wt. per square inch. But the man feels quite comfortable. It is because:
(a) An equal and opposite pressure acts from inside (b) of the height of a man
(c) of gravity (d) Earth pulls the man upward (e) None of these
- (27) A nuclear reactor is a device used to carry out controlled nuclear reaction whereas GM counter is a device used to detect:
(a) Current (b) Voltage (c) Nuclear Radiation (d) Power (e) None of these
- (28) A body can escape the gravitational pull of the earth if it is thrown up with a velocity of:
(a) 25 miles/sec (b) 60 miles/sec (c) 7 miles/sec (d) 10 miles/sec (e) None of these
- (29) Night vision is possible with the help of:
(a) Red Light (b) Violet Light (c) Infrared Light (d) Ultraviolet Light (e) None of these

GENERAL KNOWLEDGE PAPER-I

- (30) Myopia is a defect of human eye. It can be corrected by using a lens called:
(a) Convex Lens (b) Concave Lens (c) Cylindrical Lens (d) Plano convex Lens
(e) None of these
- (31) Walnuts can be broken in the hand by squeezing two together but not one. It is because of:
(a) Work done (b) Power (c) Energy (d) Volume (e) None of these
- (32) The instrument which is specially designed for recording earthquake wave is called seismograph which measures earthquake waves on a:
(a) Diatonic Scale (b) Fahrenheit Scale (c) Richter Scale (d) Celsius Scale (e) None of these
- (33) The planet Mercury completes one rotation around the sun in:
(a) 88 days (b) 365 days (c) 98 days (d) 60 days (e) None of these
- (34) Fossils found in the lowest geological strata are generally the most:
(a) Advanced (b) Complex (c) Primitive (d) Specialized (e) None of these
- (35) Evolution can be described as:
(a) A continuing process (b) A catastrophic event in the past (c) Static
(d) The attaining of an ideal type (e) None of these
- (36) What is the only source of new alleles?
(a) Crossing over (b) Independent assortment (c) Mutation
(d) Fertilization (e) None of these
- (37) Polygenic characteristics are controlled by:
(a) Dominant genes (b) Recessive genes (c) Multiple genes
(d) Mutated genes (e) None of these
- (38) Which of the following, lists the four stages of food processing in order?
(a) Ingestion, digestion, absorption, elimination
(b) Digestion, ingestion, absorption, elimination
(c) Ingestion, absorption, elimination, digestion
(d) Absorption, digestion, ingestion, elimination
(e) None of these
- (39) In humans, most nutrient molecules are absorbed by the:
(a) Stomach (b) Liver (c) Small intestine (d) Large intestine (e) None of these
- (40) The energy needed to fuel essential body processes is called:
(a) Essential nutrient level (b) Basal Metabolism (c) Recommended daily allowance
(d) Optimum energy intake (e) None of these
- (41) Which of the following is an organic molecule needed by the body in small amounts?
(a) Protein (b) Vitamin C (c) Zinc (d) Monosaccharide (e) None of these
- (42) Inhaled air passes through which of the following in the last?
(a) Bronchiole (b) Larynx (c) Pharynx (d) Trachea (e) None of these
- (43) Which of the following is a form of sexual reproduction?
(a) Hermaphroditism (b) Fission (c) Fragmentation (d) Budding (e) None of these
- (44) Cobalt is a material which is:
(a) Strongly attracted by a magnet (b) Not attracted by a magnet (c) Not a magnet
(d) Weakly attracted by a magnet (e) None of these
- (45) Laughing gas has chemical composition of the following two elements which are:
(a) Nitrogen + Hydrogen (b) Nitrogen + Carbon (c) Nitrogen + Oxygen
(d) Oxygen + Carbon (e) None of these

GENERAL KNOWLEDGE PAPER-I

- (46) Hepatitis A is transmitted to different individuals by:
(a) Water (b) Sneezing (c) Spit (d) Foeces (e) None of these
- (47) The unit that coordinates different devices of the computer system is:
(a) ALU (b) Register (c) Control Unit (d) Logical instruction (e) None of these
- (48) The most abundant element present in the human body is:
(a) Nitrogen (b) Carbon (c) Hydrogen (d) Oxygen (e) None of these
- (49) Cancer can be treated by:
(a) Antibiotics and vaccines (b) Radiotherapy and antibodies
(c) Chemotherapy and radiotherapy (d) Antibodies and chemotherapy
(e) None of these
- (50) Animals obtain carbohydrate mainly from:
(a) Sucrose (b) Starch (c) Glucose (d) Glycogen (e) None of these

PART – II

NOTE: (i) Attempt **ONLY FIVE** questions from **PART-II**. All questions carry **EQUAL** marks.
(ii) Extra attempt of any question or any part of the attempted question will not be considered.

- Q.2. Write short note on the following by giving their exact life span and contributions to the field of science. (Accurate facts will be appreciated) (5 x 2)**
(a) Al – Biruni (b) Ibn – al – Haitham
- Q.3. What do you know about hereditary diseases? Comment how they are transferred from parents to offsprings? (3 + 7)**
- Q.4. Write briefly about ANY FIVE of the following: (Answer in three or four sentences) (2 x 5)**
(a) Plaster of Paris (b) Reflex Action
(c) Pace Maker (d) Swine Flue
(e) Microwave Oven (f) The Internet
(g) Voltage Stabilizer
- Q.5. (a) What is global warming? Is there a sunny side to global warming? If yes, explain. (2 + 6)**
(b) What makes the seasons happen? (2)
- Q.6. In which region of the world, the following animals are found? Give two main characteristics of each. (2 x 5)**
(a) Blind dolphin (b) Kangaroo (c) Panda
(d) Kiwi (e) Penguin
- Q.7. (a) In which organ these parts are present in animals or human body? (2 + 8)**
(b) Describe the function of each briefly:
(i) Coronary artery (ii) Sino-auricular Node (iii) Aortic Valve (iv) Auricle
- Q.8. Differentiate between the following pairs: (2 x 5)**
(a) Hydrometer and Hygrometer (b) Perimeter and Telemeter
(c) Isotopes and Isomers (d) Flying mammal and Bird
(e) Vertebrates and Invertebrates
- Q.9. (a) What are pesticides? Explain how these are dangerous to human beings? (2 + 4)**
(b) What do the following scientific abbreviations stand for? (1/2 each)
(i) STP (ii) LORAN (iii) SONAR (iv) MAF
(v) MeV (vi) MASER (vii) AWACS (viii) CCTV



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2009
GENERAL KNOWLEDGE PAPER-I
(EVERY DAY SCIENCE)

S.No.	
R.No.	

TIME ALLOWED:	(PART-I) 80 MINUTES	MAXIMUM MARKS:50
	(PART-II) 100 MINUTES	MAXIMUM MARKS:50

- NOTE:**
- (i) First attempt **PART-I (MCQ)** on separate **Answer Sheet** which shall be taken back after **80 minutes**.
 - (ii) **Overwriting/cutting of the options/answers will not be given credit.**

PART – I (MCQs)
(COMPULSORY)

Q.1. Select the best option/answer and fill in the appropriate Box on the Answer Sheet: (50)

- (1) Persons with following blood group are considered to be universal recipient.
(a) A+ (b) B+ (c) AB+ (d) O+ (e) None of these
- (2) Study of life in outer space is known as:
(a) Endobiology (b) Exobiology (c) Enterobiology (d) Neobiology (e) Micro biology
- (3) The name of the common mineral salt present in sweat is:
(a) Calcium Oxalate (b) Potassium Sulphate (c) Sodium Chloride (d) Iron Sulphide
(e) None of these
- (4) Sensitive layer of the eye is:
(a) Choroids (b) Sclerotic (c) Retina (d) Cornea (e) None of these
- (5) Laughing gas has chemical composition of following two elements:
(a) Nitrogen + Hydrogen (b) Nitrogen + Carbon (c) Nitrogen + Oxygen
(d) Oxygen + Carbon (e) None of these
- (6) Dr. Abdus Salam of Pakistan was one of the contributors to the unification of:
(a) Electromagnetic force and gravitational force (b) Electromagnetic force and weak nuclear force
(c) Gravitational force and weak nuclear force (d) Weak nuclear force and strong nuclear force
(e) None of these
- (7) Which triplet in DNA codes for valine:
(a) CTT (b) AGU (c) CAT (d) AAT (e) None of these
- (8) What is the chance of a diabetic baby born to parents both heterozygous normal?
(a) Zero (b) 1/4 (c) 1/2 (d) 3/4 (e) None of these
- (9) Which of the following is not a part of Darwinism:
(a) Over production (b) Natural selection (c) Inheritance for acquired characters
(d) Competition for survival (e) None of these
- (10) Role of biotechnology in the production of food is based on:
(a) Decomposition (b) Respiration (c) Digestion (d) Fermentation (e) None of these
- (11) Which form of drug abuse involves most risk of infection with the HIV (AIDS) virus:
(a) Cigarette smoking (b) Using alcohol (c) Injection of heroine
(d) Taking too much aspirin (e) None of these
- (12) Founder of modern astronomy was:
(a) Archimedes (b) William Gilbert (c) Nicolas Copernicus
(d) Michel Faraday (e) None of these
- (13) The instrument which measures very high temperature is:
(a) Manometer (b) Thermostat (c) Chronometer (d) Pyrometer (e) None of these
- (14) The science which deals with study of manners and customs of peoples is:
(a) Ethnology (b) Morphology (c) Ethics (d) Genetics (e) None of these
- (15) Chemicals used to kill rats and mice are:
(a) Insecticides (b) Rodenticides (c) Fungicides (d) Herbicides (e) None of these
- (16) Dry ice is:
(a) Methane hydrate (b) Liquid Nitrogen (c) Solid Carbondioxide
(d) Frozen water (e) None of these
- (17) Chemical name of vinegar is:
(a) Sodium Nitrate (b) Dilute acetic acid (c) Chloride of lime
(d) Calcium (e) None of these
- (18) Deficiency of following vitamin decreases hemoglobin production:
(a) Biotin (b) Thiamine (c) Niacin (d) Pyridoxine (e) None of these
- (19) Hygrometer is used for measuring the:
(a) Speed of sound (b) Density of milk (c) Humidity of air
(d) Specific gravity of liquids (e) None of these

- (20) Bronze is an alloy of:
 (a) Copper and Zinc (b) Tin and Zinc (c) Copper and Tin
 (d) Iron and Zinc (e) None of these
- (21) Which of the following is most elastic?
 (a) Steel (b) Rubber (c) Glass (d) Sponge (e) None of these
- (22) Orbital period of the planet Mercury around the sun is:
 (a) 88 days (b) 365 days (c) 2 years (d) 98 days (e) None of these
- (23) The most splendid and the most magnificent constellation in the sky is:
 (a) Orion (b) Columba (c) Canis Major (d) Taurus (e) None of these
- (24) "Black holes" refer to:
 (a) Holes occurring in heavenly bodies (b) Bright spots on the sun
 (c) Collapsing objects of high density (d) Collapsing objects of low density
 (e) None of these
- (25) Eugenics is the study of:
 (a) Altering human beings by changing their genetic components
 (b) People of European origin (c) Different races of mankind
 (d) Genetics of plants (e) Eunuchs
- (26) The position of earth in its orbit, when it is at its greatest distance from the sun causing northern summer is called:
 (a) Aphelion (b) Perihelion (c) Perigee (d) Apogee (e) None of these
- (27) Diamond is a very expensive ornament. It is composed of a single element.
 (a) Carbon (b) Gold (c) Silver (d) Platinum (e) None of these
- (28) Which of the following layers makes radio transmission possible?
 (a) Troposphere (b) Ionosphere (c) Mesosphere (d) Stratosphere (e) None of these
- (29) Which of the following explains the reason why there is no total eclipse of the sun?
 (a) Size of the earth in relation to that of moon (b) Orbit of moon around earth
 (c) Direction of rotation of earth around sun (d) Area of the sun covered by the moon
 (e) None of these
- (30) Television signals are converted into light signals by:
 (a) Optical fibre (b) Transistor (c) Decoder (d) Photo diode (e) None of these
- (31) Where do most of Asteroids lie?
 (a) In asteroid belt between the orbits of Mars and Jupiter.
 (b) In asteroid belt between the orbits of Mars and Venus.
 (c) In asteroid belt between the orbits of Jupiter and Venus.
 (d) Everywhere in the sky. (e) None of the these
- (32) The number of spark plugs needed in a diesel engine is:
 (a) 2 (b) 3 (c) 0 (d) 4 (e) None of these
- (33) The half life of a radioactive element is 8-days. How long will it take to reduce it from 10mg to 5mg?
 (a) 4 days (b) 12 days (c) 16 days (d) 8 days (e) None of these
- (34) The term 'Blue Shift' is used to indicate.
 (a) Doppler effect in which an object appears bluer when it is moving towards the observer or observer is moving towards the object.
 (b) Turning a star from white to blue. (c) In future sun would become blue.
 (d) Black hole was blue at its start. (e) None of these
- (35) Kilowatt-hour is a unit of:
 (a) Power (b) Electric current (c) Energy (d) Time (e) None of these
- (36) Fuel used in Fast Breeder Reactor is:
 (a) Uranium Oxide (b) Uranium Plutonium carbide (c) Uranium Plutonium Oxide
 (d) Uranium thorium Oxide (e) None of these
- (37) Monsoon is caused by:
 (a) Seasonal reversal of winds. (b) Revolution of earth. (c) Movement of the clouds.
 (d) Rise in temperature. (e) Rain forests
- (38) Which of the following atmospheric layers helps in radio communication?
 (a) Exosphere (b) Ionosphere (c) Troposphere (d) Stratosphere (e) Ozone layer
- (39) A moderator is used in nuclear reactor in order to:
 (a) Accelerate the neutrons (b) Slow down the speed of the neutrons
 (c) Increase the number of electrons (d) Decrease the number of electrons
 (e) None of these
- (40) Sedimentary rocks are:
 (a) Porous (b) Hard (c) Rough (d) Brittle (e) Volcanic
- (41) Which one of the following is a non-metallic mineral?
 (a) Manganese (b) Magnesium (c) Gypsum (d) Bauxite (e) None of these
- (42) Ozone layer prevents the following radiation from entering the atmosphere:
 (a) Infra-red (b) Ultraviolet (c) X-rays (d) Gamma rays (e) None of these
- (43) The phenomenon of Aurora Borealis, the display of red and green lights in northern hemisphere is due to radiations from:
 (a) Ionosphere (b) Troposphere (c) Mesosphere (d) Stratosphere (e) None of these

- (44) Yeast is used in making bread because it produces:
 (a) Carbon dioxide (b) Sugar (c) Bacteria (d) Oxygen (e) None of these
- (45) Oasis is associated with:
 (a) Glaciers (b) Desert (c) Islands (d) Volcanoes (e) Fertile land
- (46) Quartz crystal in quartz watches works on the principle called:
 (a) Photoelectric effect (b) Stark effect (c) Thermionic effect
 (d) Piezo-electric effect (e) None of these
- (47) The Fruits without seed, like banana, are called:
 (a) seedless fruits (b) parthenogenesis fruits (c) parthenocarpic fruits (d) placental fruits
 (e) Organic fruits
- (48) Animal which captures and readily kills living animals for its food is called:
 (a) Parasite (b) Scavenger (c) Predator (d) Mammal (e) None of these
- (49) In a railway track, two rails are joined end to end with a gap in between them because:
 (a) Steel can be saved.
 (b) Accidents due to contraction in winter can be avoided.
 (c) Air gaps are necessary for bearing the weight of running train.
 (d) Accidents due to expansion in summer can be avoided.
 (e) All of these
- (50) Name the famous book of Ibn-Sina in which he discussed human physiology and medicine:
 (a) Al-Qanoon (b) Al-Masudi (c) New Renaissance (d) Tadhkira (e) None of these

PART – II (Subjective)

NOTE: (i) Attempt **ONLY FIVE** questions from **PART-II**. All questions carry **EQUAL** marks.
 (ii) Extra attempt of any question or any part of the attempted question will not be considered.

- Q.2.** Write short note on the following by giving their exact life span and contributions to the field of science (Accurate facts will be appreciated) (5 x 2)
 (a) Umer Al Khayam (b) Zakariya Al Razi
- Q.3.** Differentiate between **ANY FIVE** of the following pairs. (2 x 5)
 (a) Umbra and Penumbra (b) Heavy water and hard water (c) Smog and Smoke
 (d) Myopia and Hypopia (e) Lava and Magma (f) Periscope and perimeter
 (g) X-rays and Gamma rays
- Q.4.** Sun is a glorious star in our sky. Write down its characteristics with reference to the following data:
 (a) Distance from earth (b) Mean distance from centre of galaxy
 (c) Velocity around centre of galaxy (d) Revolution period around centre of galaxy
 (e) Equatorial diameter (f) Rotation period at the equator
 (g) Core temperature (h) Solar wind
 (i) The lovely Diamond Ring effect (i) Future of sun
- Q.5.** Write briefly (not more than three to four sentences) about **ANY FIVE** of the following. (2 x 5)
 (a) Allotropy (b) Nebula (c) Enrichment of Uranium
 (d) Aqua Regia (e) Greenhouse effect (f) Igneous rocks
- Q.6.** (a) Define **GENETIC ENGINEERING**. In how many ways Genetic Engineering can be applied in different fields of life? Does it benefit society? Discuss. (1+3+2)
 (b) What do the following scientific abbreviations stand for? (1/2 each)
 (i) SONAR (ii) CNS (iii) PTFE (iv) LDL (v) SARS
 (vi) GUT (vii) BASIC (viii) BTU
- Q.7.** (a) What are **MINERALS**? Discuss **ANY TWO** physical properties thereof. Also mention the names of four precious minerals of high commercial value.
 (b) Define the following: (1 each)
 (i) Amphibion (ii) Synchronous satellite (iii) Big Dipper
 (iv) Fermentation (v) Millennium Bug
- Q.8.** (a) Define **RECEPTORS** in man. Name different receptor organs in human body. Also discuss **ANY TWO** of them briefly.
 (b) Give scientific reasons of the following. (1 each)
 (i) The dogs pant, the birds open their mouth and the elephants move rapidly their ears.
 (ii) The manholes covers are generally round.
 (iii) A geostationary satellite appears standstill to a viewer on the equator of earth.
 (iv) We never see birds urinating.
 (v) Pasteurized milk has more nourishment than the ordinary boiled milk.
- Q.9.** (a) Highlight the similarities and differences between animals and plants. (3+3)
 (b) Write short note on **ANY TWO** of the following. (2 each)
 (i) Teleprinter (ii) Dengue Virus (iii) Vacuum Cleaner



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2008

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt ONLY FIVE questions. All questions carry EQUAL marks.**
(ii) Extra attempt of any question or any part of the attempted question will not be considered.

Q.1. Write briefly about the life and scientific contributions of the following Muslim Scientists: (5+5)

- a. Muhammad bin Musa Al-Khawarizmi
- b. Abu Ali Sina

Q.2. Differentiate clearly between the following pairs: (2 each)

- a. Fission and fusion
- b. Star and Planet
- c. Pollination and Fertilization
- d. Telescope and Microscope
- e. Antibiotics and Vaccines

Q.3.

- a. Discuss briefly the SOLAR SYSTEM. (6)
- b. How are EARTHQUAKES caused? (4)

Q 4. Write briefly (not more than four to five sentences) about any FIVE of the following: (2 each)

- a. Supernova
- b. Radioactivity
- c. Laser
- d. Semiconductors
- e. Geothermal Energy
- f. Computer Virus
- g. Pasteurization



Q.5.

a. What are HORMONES? Name four important hormones and describe their functions in the human body. (2+4)

b. Explain the structure and function of an ANIMAL CELL with a labeled diagram. (2+2)

Q.6.

a. What are the essential nutrients of BALANCED DIET? Describe one such nutrient in detail explaining its role in the metabolism. (2+4)

b. What do the following scientific abbreviations stand for? (1/2 each)

i. PVC ii. BCG iii. ECG iv. CFC v. LPG vi. DNA vii. AIDS viii. TNT

Q.7.

a. Define ENERGY. Name four renewable sources of energy. How can our country come out of Energy Crisis? (1+2+3)

b. Write a brief note on CERAMICS. (4)

Q.8.(a) Describe very briefly the working of a CAMERA. How does it resemble in its function with that of the HUMAN EYE? (3+3)

(b). What are PLASTICS? Describe briefly their characteristics and Limitations. (1+3)



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2007

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt ONLY FIVE questions. All questions carry EQUAL marks.**
- (ii) Extra attempt of any question or any part of the attempted question will not be considered.**

Q.1. write short notes on any two of the following (5 each)

- (a) Laser
- (b) Nuclear reactor
- (c) Ceramics

Q 2. Write briefly (not more than three to four sentences) about any five of the following (2 each)

- (a) Asteroids
- (b) Black Hole
- (c) Aurora
- (d) Sedimentary Rock
- (e) Epiphytes
- (f) Ionosphere

Q.3 Differentiate between the following pairs: (2 each)

- (a) BIT and BYTE
- (b) RAM and ROM
- (c) Epidemic and endemic
- (d) Photosynthesis and respiration
- (e) Herbivores and carnivores

Q.4 (i) What are the endocrine glands? Name any Two. (2+2)

(ii) Name the parts of human body from where the following secreted: (6)

- (a) Insulin
- (b) thyroxin
- (c) adrenalin
- (d) oestrogen
- (e) cortisol
- (f) Testosterone

Q.5 (a) Briefly discuss the classification of plants giving suitable examples: (6)

(b) define the following: (4)

- (1) Vaccine
- (2) Antibiotic
- (3) Solar eclipse
- (4) Exothermic

Q.5 Give scientific reasons of the following: (2 each)

- (a) Why climbers get their food by climbing on other trees ?
- (b) Mars is called red planet.
- (c) Vitamin D is the essential component of the body.
- (d) The weight of the object is less at the equator than at the poles.
- (e) Why do some people snore?

Q.7 Give description of satellites and also give their functions. (10)

Q.8

- (a) What is balanced diet? (5)
- (b) How are characters transmitted from parents to offspring? (5)



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2006

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt **ONLY FIVE** questions. All questions carry **EQUAL** marks.
- (ii) Extra attempt of any question or any part of the attempted question will not be considered.

Q.1. Write short notes on only TWO of the following: (5 each)

- (a) Magnetic Resonance Imaging
- (b) Tidal Energy
- (c) Supersonics

Q.2. What is Pollen Allergy? What preventive measures are to be taken to avoid it? (4, 6)

Q.3 Name. (1 each)

- 1) The alloy consisting of metals copper, zinc and nickel.
- 2) The instrument specially designed for recording earthquake waves,
- 3) The electrical device which converts sound energy into electrical energy.
- 4) The ore of mercury metal.
- 5) The device with which variation of blood flow can be heard.
- 6) The element, which is abundantly present in the human body.
- 7) The scientist who discovered penicillin.
- 8) The astronaut who first landed on the surface of the moon.
- 9) The desert mammal, which does not drink water.
- 10) The mode of heat transfer from the sun to the earth.

Q.4. Write briefly (not more than four to five sentences) about only FIVE of the following: (2 each)

- (a) Plaster of Paris
- (b) Theodolite
- (c) Bird Flu
- (d) Gene
- (e) Thermistor

- (f) Thermostat
- (g) Pedometer

Q.5. Which physical quantities are measured by the following units? (1 each)

- (a) Foot-Pound
- (b) Torr
- (c) Slug
- (d) Gauss
- (e) Acre Foot
- (f) Becquerel
- (g) Erg
- (h) Dyne
- (i) Gilbert
- (j) Dioptre

Q.6. What is the difference between Dam and Barrage? What benefits are obtained by constructing a big dam? (2, 8)

Q.7. Which of the following statements are True and which are False: (1 each)

- 1) Pitch of the dog sound is greater than the pitch of the cat sound.
- 2) Ultraviolet light is visible but infrared light is not visible.
- 3) Earthquakes are the lamps illuminating the structure of the earth's exterior.
- 4) Electricity does not move through the wire but through a field around the wire.
- 5) A guava contains more vitamin C than an orange.
- 6) Sound travels faster in iron than in air.
- 7) Wheat Bridge is the name of an electrical circuit.
- 8) Morphine can cause constipation and lowering of blood pressure.
- 9) A concave lens is used for the correction of the Hyperphobia.
- 10) The nucleic acids are responsible for proteins synthesis in the human body.

Q.8. Differentiate between the following pairs: (2 each)

- (a) Telemeter and Multimeter
- (b) Perimeter and Altimeter
- (c) Periscope and Microscope
- (d) Nucleon and Photon
- (e) Cusec and Comet

Q.9. Fill in the blanks: (1 each)

- 1) The branch of zoology, which deals with the study of insects is called _____
- 2) The disease _____ is caused by the deficiency of Vitamin B1 (Thiamine).
- 3) Oil rises in a wick of oil lamp because of a property of matter, called _____
- 4) The production of generally identical reproduction is called as _____
- 5) _____ is the fastest planet of the solar system.
- 6) Mercury metal is _____ times heavier than water.
- 7) Relative density of milk is measured by an instrument known as _____
- 8) The temperature of a human body is measured by an instrument known as _____

9) Gold and silver are known as _____ metals.

10) The amount of ozone in the atmosphere is expressed in _____.

Q.10. What is global warming? Is there a sunny side to global warming? If yes, explain. (4, 6)

Q.11. Give scientific reasons of the following: (2 each)

- a) Why do some people snore?
- b) Why do we sometimes sleep walk?
- c) Climber bends forward while climbing a mountain.
- d) The manhole covers are generally round.
- e) Roads are bent inwards on curves.

Q.12. What are vitamins and minerals? Which vitamins and minerals play major role in the development of bones? (4, 6)

Q.13. what do the following scientific abbreviations stand for? (1 each)

- (1) CRO
- (2) SARS
- (3) BOT
- (4) AMU
- (5) EMF
- (6) ADH
- (7) STP
- (8) GeV
- (9) NTP
- (10) CRT

Q.14. Compare the columns A and B and write the correct answer from the column B corresponding to the column A (serial wise) in column C. (1 each)

Column A Column B Column C

- (1) Geiger Muller Counter Semi Conductor (1)
- (2) Newton Magnet (2)
- (3) Addison Electricity (3)
- (4) Bardeen and Brattin Radioactivity (4)
- (5) Weber Fehner's Law E.M Induction (5)
- (6) Benjamin Franklin Lightning Conductor (6)
- (7) Decibel Gravitation (7)
- (8) Dr. Gilbert Water (8)
- (9) Henry Cavendish Sound (9)
- (10) Faraday Non-conductor (10)

Q.15. Choose the best choice in the following statements:

1) One of the countries through which equator passes is:

- (a) Kenya
- (b) Malaysia
- (c) Malta
- (d) Pakistan

2) Copper can be converted into gold by:

- (a) Artificial radioactivity
- (b) heating
- (c) Electroplating
- (d) Chemical reaction

3) The three elements needed for healthy growth of plants are:

- (a) N, P, K
- (b) N, C, P
- (c) N, K,
- (d) N, S, P

4) Clocks, which moves with the velocities comparable with the velocity of light, run:

- (a) fast
- (b) slow
- (c) equal to the velocity of light
- (d) with zero velocity

5) Max Planck received the noble prize in Physics in 1918 for his discovery of:

- (a) electron
- (b) energy quanta
- (c) photon
- (d) positron

6) Bronze medal is made up of metals:

- (a) (copper,nickel)
- (b) (copper, tin)
- (c) (copper, silver)
- (d) (copper, zinc)

7) Addison's disease is caused by the excessive secretion of:

- (a) Antiduretic Hormone
- (b) Luteinising Hormone
- (c) Melanophore stimulating Hormone
- (d) Adrenocorticotrophic Hormone



8) Development of calf muscles in ladies who wear high heels is a common example of:

- (a) Natural Selection
- (b) inheritance of acquired character
- (c) Use and disuse of organ
- (d) Artificial selection

9) Margalla Hill is a branch of:

- (a) Karakorum range
- (b) Hindukash range
- (c) Himalaya range
- (d) Nanga Parbat range

10) Humming bird belongs to a category called:

- (a) Ectotherm
- (b) Endotherm
- (c) Exotherm
- (d) Heterotherm.



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2005

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt ONLY FIVE questions. All questions carry EQUAL marks.**
- (ii) Extra attempt of any question or any part of the attempted question will not be considered.**

Q1. Write short notes on any TWO of the following: (5 each)

- (a) Communication Satellite
- (b) Geo-thermal Energy
- (c) Ultrasonics

Q2. Write short notes on the life and work of the following: (5 each)

- (a) Al-Biruni
- (b) Ibn Al - Haitham

Q3. Name: (1 each)

- (a) The alloy which consists of copper and tin.
- (b) The device used to measure radioactivity.
- (c) The organ in (he human body which is responsible for the digestion of protein only
- (d) The instrument used to measure very high temperature.
- (e) The scientist who designed the first internal combustion engine used to burn low grade fuel.
- (f)The scientist who asserted the earth to be a huge magnet.
- (g) The metal known as quick silver.
- (h) The device which converts the chemical energy into electrical energy.
- (i) The first person to orbit the earth in space.
- (j) The scientist who discovered water.

Q4-Write briefly about any FIVE of the following: (2each)

- (a) Shock Waves
- (b) Sound Barrier
- (c) Solar Cell
- (d) Super Fluid
- (e) Tsunami
- (f) Photovoltaic Cell
- (g) Hygrometer

Q5. Which physical quantities are measured by the following units? (1 each)

- (a) Coulomb
- (b) Weber
- (c) Tesla
- (d) Siemen
- (e) Rutherford
- (f) Faraday
- (g) Angstrom
- (h) Parsec
- (i) Degree
- (j) Steradian

Q6. How do our domestic and industrial activities pollute water? Explain with reference to two important industries of Pakistan. (5,5)

Q7- Which of the following statements are True and which are False: (1 each)

- (a) To stay in the sunlight while circling the globe at the equator, one has to move with a speed of 1670 km/hour.
- (b) Infrared waves have more wavelengths than the red colour.
- (c) liver produces bile which is involved in the breakdown of fats.
- (d) A secondary cell can be charged again.
- (e) Nucleic acids are responsible basically for protein synthesis in the human body,
- (f) The quality of gasoline is checked by its octane number.
- (g) image in a plane mirror is not laterally inverted.
- (h) Horse power is the unit of mechanical energy.
- (i) Sound travels faster in vacuum than in water.
- (j) Nitrogen is the most occurring element in the human body.

Q8. Differentiate between the following pairs. (2 each)

- (a) Radiotherapy & Chemotherapy
- (b) Penumbra & Umbra
- (c) Springtides & Neaptides
- (d) Vertebrates & Invertebrates
- (e) Fluorescent light & Neon signs

Q9. Fill in the blanks: (1 each) '

- a) The variation in the blood flow can be heard with an instrument called ____
- b) There is a place in the retina where the light sensitive cells are interrupted by the presence of the optic nerve head. It is known as ____
- (c) The study of human population is called .
- (d) Human beings belong to species called ____.
- (e) defect of eye due to which nearly located objects are not clearly visible is called ____.
- (f) About ____ of the human body consists of water.
- (g) All of the oxygen that you breathe has been produced by the splitting of water during ____.
- (h) The important ore of Chromium is _.
- (i) ____ acid was discovered by Jabbar bin Hayyan.
- (j) The measurement of rainfall is made by an instrument known as _.

Q10. What are the main reasons of water - logging in Pakistan? How does a tube-well reclaim a water logged soil? (5,5)

Q11 . Give scientific reason of the following: (2 each)

- (1) Pole star is always seen in the north.
- (2) We never see birds urinating.
- (3) Pasteurized milk has more nourishment than the ordinary boiled milk.
- (4) Bees die when they sting human beings.
- (5) Cloudy nights are usually warmer than the clear ones.

Q12. What are Nuclear reactors? How the Electrical energy is produced by Nuclear Power Plants? Name the devices which convert

- (1) Mechanical energy into electrical energy
- (2) Heat energy into mechanical energy
- (3) Electrical energy into mechanical energy
- (4) Electrical energy into sound energy
- (5) Sound energy into electrical energy

Q13. What do the following scientific abbreviations stand for: (1 each)

- (a) I-1DL
- (b) McV
- (c) UHF
- (d) LED
- (e) LCD
- (f) BASIC
- (g) MASER
- (h) ETT
- (i) HST
- (j) DBS

Q14-Compare the columns A and B and write the correct answer from the Column to the Column A (serial wise) in Column C,

Column A	Column B	Column C
1. Gunpowder	1. Sulphur dioxide	1.
2. Marble	2. Fermi	2.
3. Ozone	3. Aqua regia	3.
4. Argon	4. Beta - Particle	4
5. Quartz	5. Frequency	5
6. Mirage	6. Calcium Carbonate	6
7. Gold	7. Dobson Units	7
8. Modulation	8. Silicon dioxide	8
9. Length	9. Total internal reflection	9
10. Solar Energy	10. Blue purple light	10

Q15. Choose the best choice in the following statements.

(I) Select the correct association :

(a) Oxidation-Loss of an electron (b) Oxidation - gain of an electron (c) Reduction - gain of a neutron (d) Reduction - loss of a neutron

(2) Radioactive isotope of Uranium used in Nuclear Bomb is:

- (a) ${}^{235}_{92}\text{U}$ (b) ${}^{234}_{92}\text{U}$
 (c) ${}^{233}_{92}\text{U}$
 (d) ${}^{238}_{92}\text{U}$

(3) Human population growth is greatest in developing countries because:

- (a) the birth rate is high in developing countries (b) the death rate is high in developing countries
 (c) much of the population has already reached the child bearing age
 (d) most of the world's population lives in industrialized countries

(4) Which woody raw material is used for the manufacture of paper pulp?

- (a) Cotton (b) Poplar (c) Bagasse (d) Rice straw

(5) Rectified spirit contains alcohol about:

- (a) 80% (b) 95% (c) 70% (d) 85%

(6) Which of the following elements is not present abundantly in earth's crust:

- (a) Silicon (b) Radium (c) Aluminum (d) Carbon

(7) The famous book; Al - Qanoun was written by the Muslim scientist:

(a.) Jabar bin Hayyan (b) Zakariya Al - Razi (c) Abu Ali Sina (d) Abdul Qasim Majreeti

(8) Basic metals can be converted into gold by:

(a) heating (b) beating (c) artificial nuclear radioactivity (d) chemical reaction

(9) A light year is a unit of:

(a) time (b) energy (c) length (d) mass

(10) One of the main function of the earth's ozone layer is to:

(a) prevent global warming (b) filter out ultraviolet rays (c) absorb pollution (d) all of the above



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2002

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt **ONLY FIVE** questions. All questions carry **EQUAL** marks.
(ii) Extra attempt of any question or any part of the attempted question will not be considered.

Q.1 Write short notes on any two of the following : 5 each

a. Acid Rain b. pesticides c endocrine system

Q.2 Differentiate between any five of the following pairs : (2 each)

- (a) rotation and revolution of earth
(b) monocot and dicot plants
(c) pollination and fertilization d umbra and penumbra
(e) nucleus and nucleolus e heavy water and hard water

Q.3 Draw a labeled diagram of human eye, indicating all essential parts, discuss its working (5,5)

Q.4 Fill in the blanks with suitable words : (1 each)

- a. Heavenly objects, which resembles stars and emit radio waves are called _ _ _ _
b. _ _ _ _ are hot springs that erupt hot water and steam from time to time
c. Hot liquid rock beneath the earth's surface is called _ _ _ _
d. The first simply microscope was invented by _ _ _ _
e. _ _ _ _ is the power house of the cell
f. Ability of the air to absorb long heat waves from the earth after allowing the short waves from sun to pass through it is known as _ _ _ _
g. Computer works on the principle introduced by the Muslim scientist _ _ _ _
h. Coldest planet of the solar system is _ _ _ _
i. The rupture of red blood cells is called _ _ _ _
j. Muslim Scientist Ali ibn Al Tabari is famous for his work on _ _ _ _

Q.5 What is the solar system ? Indicate the position of planet pluto in it. State the characteristics that classify it as : (5,1,4)

- (A) A planet
- (B) An asteroid

Q.6 which quantities are measured by the following SI units : (1 each)

- a. Watt
- b. Coulomb
- c. Pascal
- d. Ohm
- e. Kelvin
- f. Joule
- g. meter
- h. Farady
- i. Hertz
- j. Ampere

Q.7 What are minerals ? For most of the part minerals are constituted of eight elements, name any six of them. State the six characteristics that are used to identify minerals

Q.8 Define any five of the following terms using suitable examples :

- a. Polymerization
- b. Ecosystem
- c. Antibiotics
- d. Renewable energy resources
- e. Gene
- f. Software

Q.9 what do you understand by the term “Balanced Diet ? What are its essential constituents ? state the function of each constituent (2,3,5)

Q.10 Which of the following statements are true and which are false (1 each)

- a. Haploid cells result from the process of mitosis
- b. All stars are of the same colour
- c. The left lung has two lobes while the right lung has three lobes
- d. The pulmonary veins return oxygenated blood to the right atrium
- e. Muslim Scientist Ibn Haitham is famous for his work on planets
- f. Our galaxy milky way is shaped like a large thick concave lens with a large central bulge
- g. DNA has a double helix structure while the RNA does not have a double helix structure
- h. The normal temperature of Human Blood is 37 c (98.6 F)
- i. The liver is a part of gastrointestinal tract
- j. Movement of tectonic plates may cause eruption of a volcano

Q.11 What do the following scientific abbreviations stand for ? (1 each)

- a. LASER
- b. RADAR
- c. LPG
- d. PVC
- e. CFC
- f. AIDS
- g. ROM
- h. LAN
- i. WWW
- j. DNA

Q.12 Give brief scientific reasons for any five of the following statements : (2 each)

- a. Lunar eclipse lasts much longer than solar eclipse
- b. Goiter is common in people living in hilly areas
- c. Mixture of ice and salt (sodium chloride) is used as a freezing mixture
- d. Detergents are better cleaning agents compared to soap
- e. Decomposers are important for life on land and water
- f. Places near the sea are cooler in summer and warmer in winter than places farther inland

Q.13 Name (1 each)

- a. A disease caused by deficiency of vitamin C
- b. The major fossil fuel impurity
- c. The instrument used to measure degree of humidity
- d. An ore of Zinc
- e. Two most abundant elements present in the sun
- f. The metal atom present in chlorophyll
- g. The gland responsible for the secretion of the hormone estrogen
- h. An element used in the doping of silicon for the preparation of a p-type semiconductor
- i. A synthetic fibre which is a polyamide
- j. Major constituent of Biogas

Q.14 What are fertilizers ? what do you understand by the term NPK fertilizer ? How do fertilizers contribute to water pollution ? (3,1,6)

Q.15 Choose the one alternative the best completes the statement or answer the question (1 each)

- 1). Glycogen is an example of
- a. Carbohydrate
 - b. Peptide
 - c. Lipid d steroids



2). The cell structure that controls movements of material into and out of the cell is the

- a) mitochondria
- b) cell membrane
- c) Centriole
- d) golgi body

3). The unit that co-ordinates different devices of the computer system is

- a. ALU
- b. register
- c. control unit
- d. logical instructions

4) _____ manages and controls various functions of the computer

- a. in put/out put device
- b. main memory
- c. operating system
- d. both a & b

5). The number of natural satellite orbiting around the planet Mars is

- a. 1
- b. 2
- c. 5
- d. 14

6) is an example of mechanical digestion

- a. glycolysis
- b. hydrolysis
- c. Mastication
- d. defecation

7) Botanically a fruit is a/an

- a. ripened ovule
- b. mature stigma
- c. ripened ovary
- d. fully mature flowering stalk

8). The vocal folds are part of the

- a. nasal cavity
- b. larynx
- c. trachea
- d. laryngopharynx



9). Blood glucose is raised by all of the following except

- a. glycogen
- b. insulin
- c. cortisol
- d. epinephrine

10. The famous book Al-Qanoon was written by the Muslim scientist

- a. Jabir-ibn-Ha



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2001

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt **ONLY FIVE** questions. All questions carry **EQUAL** marks.
(ii) Extra attempt of any question or any part of the attempted question will not be considered.

Q. 1. (a) What were the special characteristics of Muslim Scientists?

(b) What were the contributions of the following Muslim Scientists:

- (i) Umar Al-Khayyam.
- (ii) Abu Ali Sina
- (iii) ibn Hayyan
- (iv). Jhn al Baitar
- (v) Zakariya Al-Razi.

Q. 2. (a) Differentiate clearly between Cyclone, Huriicane and tornado.

(b)

- (i) Name two minerals which ate exported from Pakistan.
- (ii) Name some gem-minerals used in Jewellery.
- (iii) What is dead sea.
- (iv) Why does the Sun appears orange-red at the time of Sunrise and Sunset.
- (v) Why does the total Eclipse can happen only at the new Moon.

Q. 3.

(a) Name popular farms of Energy. Write five various scientific devices used to convert one type of energy into another form of energy.

(b) Write meaning of the following units:

- (i) Barrel
- (ii) Joule
- (iii) Btu
- (iv) KWh
- (v) Newton.

Q. 4. Write short notes on any THREE of the following:

- (i) Synthetic Polymers..
- (ii) Laser.
- (iii) Pesticides
- (iv) Fission and Fusion
- (v) Paramagnetism and Diamagnetism.

Q. 5. Write difference between:

- (i) Microcomputer and minicomputer
- (ii) Main frame and Super computer.
- (iii) Hardware and Software.
- (iv) Byte and Word.
- (v) Ram and Cache memory.

Q. 6. Describe briefly the principle and working of any TWO of the following:

- (i) Pressure cooker
- (ii) Television
- (iii) Microwave oven
- (iv) Radar
- (v) Tape recorder.

Q. 7. Differentiate between:

- (i) DNA and RNA
- (ii) Brass and Bronze
- (iii) Blood and Lymph
- (iv) Hard water and Heavy water
- (v) Small pox and Measles
- (vi) Pig iron and Stainless Steel.
- (vii) Alloy and Amalgum
- (viii) Isotopes and Isobars
- (ix) Artery and Vein
- (x) Barrage and Dam.

Q. 8. Explain the scientific reasons for the following:

- (i) It is not advisable to sleep under trees during the night.
- (ii) Water boils quicker on mountains.
- (iii) Rainbow is produced in the sky after rain fall and sunlight.
- (iv) Water remains cool in a Earthenware pitcher.
- (v) Milk is considered as an ideal food.

Q. 9. Which of the following statements are true or false. Only write “True” or “False” in the answer book. Do not reproduce the statement.

- (i) Urea is a phosphate fertilizer.
- (ii) Cellulose is a natural polymer. (iii) Magnetite is the ore of copper
- (iv) Malaria is caused by drinking polluted water.
- (v) The instrument used to measure velocity of wind is Barometer.
- (vi) Our eye is very sensitive to blue light.
- (vii) Sound can not travel through vacuum.
- (viii) Enzymes are biological catalyst.
- (ix) Leprosy is a disorder of Nervous System.
- (x) Mica is a non-conductor of electricity.

Q.10 What are Endocrine glands? Name any four. From which part of the body are the followings secreted:

- (i) Insulin
- (ii) Thyroxin
- (iii) Adrenaline
- (iv) Oestrogen
- (v) Testosterone and
- (vi) Cortisol

Q.11

- (a) Name the important parts of a Flower.
- (b) Explain the Pollination and Fertilization processes.

Q.12 Write short notes on any FIVE of the following:

- (i) Ecosystem
- (ii) CNG
- (iii) PVC
- (iv) Hormones
- (v) Antibiotics
- (vi) Ceramics
- (vii) Green House Effect
- (viii) Photosynthesis
- (ix) Pasteurization
- (x) Vaccine.

Q.13 What are the factors of water pollution? What types of diseases are transmitted by using polluted the methods to control pollution of water.

Q.14 Fill in the blanks with appropriate words:

- (i) The purpose of computer is _____
- (ii) polio is caused by _____
- (iii) The stalagmite is deposit of _____
- (iv) Bauxite is one of _____
- (v) The chemical name of washing soda is _____
- (vi) The main constituent of Sui gas is _____ colour has the shortest wave length.
- (vii) _____ colour has the shortest wave length.
- (viii) Glass is a _____
- (ix) Monomers of protein are _____
- (x) Ascorbic acid is vitamin _____
- (xi) The solar system has _____
- (xii) Aids is caused by _____
- (xiii) In a normal resting person the rate of heart heat is _____
- (xiv) The science which deals with heredity is known as _____
- (xv) In Pakistan Copper mineral is found in _____
- (xvi) The most abundant element in the earth crust is _____
- (xvii) _____ is an apparatus used for measuring the pressure of gases.
- (xviii) The smallest branches of an artery lead into tiny blood vessels are called _____
- (xix) The living part of a plant cell is composed of a nucleus and _____
- (xx) The fastest revolving planet is _____



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2000

Roll Number

GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE

TIME ALLOWED: 100 MINUTESMaximum Marks: 50

NOTE:

- (i) Attempt **ONLY FIVE** questions. All questions carry **EQUAL** marks.
- (ii) Extra attempt of any question or any part of the attempted question will not be considered.

Q1. Write comprehensive notes on any TWO of the following: (5,5)

- (a) Contribution of Muslim scientists in the field of biology.
- (b) Water pollution.
- (c) Semiconductors.

Q2. Describe the various type of movements of the earth? What are the effects of these movements? Draw simple diagrams to illustrate your answer. (4,6)

Q3. Explain the following using suitable examples. (2 each)

- (a) Feedback mechanism of human system.
- (b) Eco-system
- (c) Troposphere
- (d) Carbon cycle
- (e) Meningitis

4. What is excretion? Name the excretory organs in man. Describe the structure and function of human kidney for the excretion of urine. (1,2,7)

Q5. Describe the Principle, construction and working of a telephone? (2,4,4)

Q6. What are latitudes and longitudes? How can the central line of latitude be used to find the location of a place? (4,6)

7. Differentiate between:

- (a) Cardiac Muscles and Skeletal Muscles.
- (b) Haze and Smog.
- (c) Enzyme and Hormone.
- (d) Sedimentary Rocks and Igneous Rocks.
- (e) Producers and Consumers.

8. Define the following terms: (1 each)

- (a) RAM
- (b) Byte
- (c) Mouse
- (d) Icons
- (e) Software
- (f) Control Unit
- (g) LAN
- (h) Modem
- (i) ALU
- (j) Registers.

Q9. Discuss the structure of a typical animal cell in detail. 10)

Q10. Fill in the blanks with appropriate words: (1 each)

- (a) Monomer of proteins are _____.
- (b) Water transport in plants occurs within _____.
- (c) Underground horizontal stems are called _____.
- (d) In the eye, only _____ contain receptors for light energy.
- (e) Plant _____ control plant responses to environmental stimuli.
- (f) _____ are often called the power houses of the cell.
- (g) The rate at which a current changes direction is called its _____.
- (h) The energy of electrons at the negative terminal of a battery is called _____.
- (i) _____ is the smallest planet of the solar system.
- (j) Diamond is an allotropic form of the element _____.

Q11. Which are plastics? Name their different types and processes by which they are manufactured. Discuss the impact of the use of plastics on the environment.

Q12. Which of the following statements are False and which are True: (1 each)

- (a) In the circulatory system two pulmonary arteries take blood from the left ventricle to the lungs.
- (b) Anaphase is the stage of mitosis during which the daughter chromosomes move towards the poles.
- (c) The Motor neurons carry nerve impulses from the central nervous system to the effectors.
- (d) Cochlea is a part of the middle ear.

- (e) Tides happen due to the moon's gravitational pull.
- (f) Heavy water contains salts of Calcium and Magnesium.
- (g) All non-metals exist in gaseous state.
- (h) A parachute can be used by a spaceman to help in landing on the moon.
- (i) The gemstones Ruby and sapphires are composed of Aluminum Oxide.
- (j) In a chemical battery chemical energy ions directly converted into mechanical energy.

Q13. Choose the correct answers. Don't reproduce the questions. (1 each)

- (i) Speed of the wind is measured by:
 - (a) Barometer (b) Hygrometer (c) perimeter
 - (d) Anemometer (e) None of these.
- (ii) _____ connects the muscle with the bone.
 - (a) Cartilage (b) Ligament (c) Tendon (d) Disc (e) None of these.
- (iii) Polio is caused by a:
 - (a) Bacterial (b) Virus (c) Fungus (d) Deficiency of vitamin (e) none of these.
- (iv) The coldest planet of the solar system is:
 - (a) Earth (b) Venus (c) Mars (d) Pluto (e) None of these
- (v) _____ is a vitamin:
 - (a) Citric acid (b) Tartaric acid (c) Ascorbic acid (d) Acetic acid (d) none of there
- (vi) An eggshell is composed of:
 - (a) Iron (b) Starch (c) Carbon (d) Protein (e) None of these.
- (vii) The most abundant element in the earth's crust is:
 - (a) Nitrogen (b) Silicon (c) Carbon (d) Oxygen (e) None of these
- (viii) The main constituent of Biogas is:
 - (a) Methane (b) Hydrogen (c) Oxygen (d) Carbon dioxide (e) None of these.
- (ix) Stalagmites are deposits of :
 - (a) Calcium oxide (b) Calcium sulphate (c) Calcium hydroxide (d) Calcium carbonate (e) Mixture of all salts.

(x) Gigantism is the result of:

(a) Hypothyroidism (b) Recessive gene (c) Hyper pituitarism (d) Vitamin D deficiency (e) None of these.

Q14. What are the causes of Earthquakes: How have earthquakes helped in deciphering the internal structure of the earth? (4,6)

Q15. What is the endocrine system? Write the names and function of any eight endocrine glands. (2,8)