

SCHOOL EDUCATION & LITERACY DEPARTMENT GOVT OF SINDH
SECONDARY SCHOOL TEACHER BPS-16

(SCIENCE CATEGORY)

Recruitment Notes



Sindh Public
Service Commission

According to new syllabus:

Revised Updated Edition

INCLUDES MCQS IN,

One Liner MCQS

- ❖ ENGLISH
- ❖ MATHEMATICS
- ❖ PHYSICS
- ❖ CHEMISTRY
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Mathematics:

- ✓ All topics are covered

Physics:

- ✓ All topics are covered

Chemistry:

- ✓ All topics are covered

Biology:

- ✓ All topics are covered

English

TENSES USAGE

1: Uses of Simple Present Tense

Verb Forms: Verb / verb+s/es

1. To express a habitual action.

For example:

I get up every day at five o'clock.

2. To express general truths

For example:

The sun rises in the east.

3: To indicate a future event that is part of a fixed program or timetable.

For example:

The train leaves at 5:20 am.

Note: We can also use will leave in place of leaves.

2: Uses of Simple Past Tense

Verb Forms: Second form of verb only

1. To indicate an action completed in the past. Generally, adverbs or adverb phrases of past time are used in the past simple tense.

For example:

The steamer sailed yesterday.

He went home some time back.

2. When this tense is used without an adverb of time, then time may be either implied or indicated by the context.

For example:

I didn't sleep well. (i.e., last night)

3. For past habits 'used to' is added to the verb.

For example:

She used to carry an umbrella.

11. In case of conditional sentences 'had' and 'would have' are used.

For example: If I had met him I would have invited him.

PARTS OF SPEECH

1: Rules of Grammar Regarding Noun

1. Following are rules regarding the number of the noun:

For example:

Deer was caught.

Deer were caught.

Here, the singular and plural form of the noun Deer is same.

2. Like Deer there are other nouns that have the same form in singular as well as plural form.

For example: sheep, deer, apparatus, species, series, hundred, dozen, hair, etc.

3. Nouns denoting large numbers are used both in singular and plural forms.

For example:

Three hundred people attended the function.

Hundreds of people attended the party.

In sentence 1, 'hundred' is preceded by the number 'three'. So 'hundred' will take no plural form. Word 'three hundred' indicates plurality. But in sentence 2, 'hundred' is not preceded by any number. So to indicate plurality, we will write 'hundreds'.

So, the rule is that when words like hundred, dozen, thousand, pair, score are not preceded by any word denoting number then they take the plural form. Otherwise not.

Consider some more examples:

1. Coca-Cola paid lakhs of rupees to Aamir Khan for promoting their product.
2. I brought two dozen bananas.

Tell which sentence is correct?

1. Which sentence is correct?

Since long no news has been heard.

Since long no news have been heard.

Sentence 1 is correct. The reason is that some nouns are always used as singular though they look like plural nouns. That's why we should never use the plural verb with these words.

Other similar words are politics, mathematics, physics, gallows, means, billiards, ethics, summons, innings.

For example:

Politics is not my cup of tea.

I received summons.

Sachin once again played a superb innings

2. Which sentence is correct?

The spectacles that you are wearing are really nice.

The spectacle that you are wearing is really nice.

Sentence 1 is correct. The reason being that some noun words are always used in the plural form.

For example: trousers, arms, drawers, assets, scales, alms, thanks, cards; ashes, riches, premises, scissors, credentials, proceeds.

3. Which sentence is correct?

The cattle was grazing in the field.

The cattle were grazing in the field.

Sentence 2 is correct. The reason being that some nouns are always used as plurals though they look like singular.

3. The meaning of some nouns in plural form is very different from the meaning of nouns in the singular form. Hence, that form should be used which will convey the right meaning.

For example:

1. I opened the letter and read its contents.
2. Her mouth was fixed in a smile of pure content.
3. The conflict between good and evil is ages old.
4. We must produce goods at competitive prices.
5. Delhites breathe the most polluted air in the world.

For example:

The group meets every week.

The committee agrees on the quality of the writing.

4: Important Adverb Rules With Example

1. Adverbs of manner such as well, fast, quickly, carefully, calmly, etc. are placed after the verb if there is no object and after the object, if there is one.

For example:

It is raining heavily.

She speaks English well.

2. Adverbs of time such as always, often sometimes, never, generally, ever merely, seldom, etc. are placed before the verb they qualify.

For example:

I seldom meet him. (Correct)

I meet him seldom. (Incorrect)

3. Adverbs of degree tell us about the intensity of something. It refers to words which show "how much", "in what degree" or "to what extent" does the action takes place. The words 'too', 'enough', 'very', 'just', 'almost', 'extremely', etc. are examples of adverbs of degree.

For example:

The water was extremely cold.

She has almost finished.

He was just leaving.

She has almost finished.

The movie is quite interesting.

4. The meaning of 'too' is 'more than enough.' Too denotes some kind of excess.

For example:

He is too weak to walk.

It is never too late.

Hence, the use of 'very' in place of 'too' is wrong.

5. Enough is placed after the word it qualifies.

For example:

5: Rules of Prepositions

1. 'In' is used with the names of countries and large towns; 'at' is used when speaking of small towns and villages.

For example:

I live in Karachi

I live at Saddar in Karachi.

2. 'In' and 'at' are used in speaking of things at rest; 'to' and 'into' are used in speaking of things in motion.

For example:

He is in bed.

He is at the top of the class.

He ran to school

He jumped into the river.

The snake crawled into its hole.

3. 'On' is often used in speaking of things at rest, and 'upon' for the things in motion.

For example:

He sat on a chair.

The cat sprang upon the table.

4. 'Till' is used for time and 'to' is used for place.

For example:

He slept till eight o'clock.

He walked to the end of the street.

5. 'With' often denotes the instrument and 'by' the agent.

For example:

He killed two birds with one shot.

He was stabbed by a lunatic with a dagger.

6. 'Since' is used before a noun or phrase denoting some point of time and is preceded by a verb in the perfect tense.

For example:

Synonyms & Antonyms

Synonyms	Meaning	Antonyms	Meaning
Fostering	Nurturing	Foremost	Unimportant
Propel	Drive	Protects	Deserts
Massive	Huge	Beautiful	Ugly
Stumbling Block	Hurdle	Terrible	Soothing
Defer	Postpone	Widely	Narrowly
Cease	Stop	Last	Grow
Pious	Religious	Mighty	Weak
Cancel	Abolish	Glory	Debasement
Abandon	Forsake	Development	Retrogression
Germinate	Sprout	Modern	Ancient
Recuperate	Recover	Prosperous	Impecunious
Augury	Prophecy	Impediments	Promoters
Delectable	Delicious	Divided	United
Dielectric	Nonconductor	Differences	Resemblances
Paltry	Insignificant	Superiority	Inferiority
Disparage	Belittle	Haunts	Repels
Alacrity	Briskness	Underhand	Exposed
Busy	Occupied	Testify	Falsify
Bitterness	Acrimony	Extensive	Narrow
Sterile	Barren	Discovered	Concealed
Altercation	Heated Disputed	Abstain	Begin
Prohibit	Forbid	Profusion	Scarcity
Stupid	Dull	Obscure	Explicit
Synopsis	Summary	Repulsive	Alluring
Graphic	Obvious	Ambiguous	Clear
Showy	Gaudy	Attractive	Repulsive
Annihilate	Destroy	Rigid	Lenient
Pacify	Calm	Benign	Malevolent
Liberal	Broad-minded	Genuine	Sham
Security	Safety	Singular	Common
Diligent	Hardworking	Frugal	Extravagant
Predominant	Important	Permit	Forbid
Utility	Usefulness	Consolidate	Weaken
Compassion	Kindness	Trivial	Serious
Contentment	Satisfaction	Acquit	Convict
Fiction	Imaginary	Always	Never
Fugitive	Escaping	Bitter	Sweet
Exponent	Advocate	Bright	Dull
Goad	Irritate	Obeying	Refusing
Foment	Provoke	Asked	Ignored
Imperceptible	Subtle	Commissioned	Terminated
See	Observe	Covering	Exhibiting
Installed	Established	Amicable	Hostile
Contain	Hold	Aversion	Linking

Garnish	Adorn	Unstable	Steady
Mendacious	False	Neat	Sloppy
Garrulity	Loquaciousness	Host	Guest
Morose	Gloomy	Compact	Enlarged
Voracious	Gluttonous	Militant	Pacifist
Awakened	Weaken	Secular	Religious
Gratify	Indulge	Miserly	Generous
Precarious	Perilous	Retain	Spare
Infamy	Dishonor	Aromatic	Odorous
Masterly	Skilful	Naïve	Sophisticated

IDIOMS & PHRASE

S no	Idioms & Phrase	Meaning
1	To make clean breast of	To confess without of reserve
2	To keep one's temper	To be in good mood
3	To drive home	To emphasis
4	To have an axe to grind	A private end to serve
5	To cry wolf	To give false alarm
6	To end in smoke	To ruin oneself
7	To be above board	To be honest in any business deal
8	To pick holes	To criticize someone
9	To beg the question	To take for granted
10	A man of straw	A man of no substance
11	To smell a rat	To suspect foul dealing
12	To hit the nail right on the head	To do the right thing
13	To set one's face against	To oppose with determination
14	To give up the ghost	To die
15	To get cold feet	To be afraid
16	To be at daggers drawn	To be bitter enemy
17	To get into hot water	To get in trouble
18	To snap one's fingers	To become contemptuous
19	To throw down the glove	To give a challenge
20	To talk one's head off	To talk excessively
21	To save one's face	To evade disgrace
22	To hit below the belt	To harm unfairly
23	Lady's man	A lover of woman company
24	To take a leap in the dark	To do a hazardous thing without any idea of the result
25	To frame a person	To make one appear guilty
26	To be loggerheads	To be at enemy or strife
27	To speak daggers	To speak to a person with hostility
28	To pay off old scores	To have one's revenge
29	To get the hang of a thing	To understand the meaning of it
30	A cock & bull story	A foolish and concocted story
31	To make a shot	To make a guess

5. The said to us, " please listen to us attentively"
6. Tahir said to aamir, " I may take part in dramatics."
7. Theb teacher said to ali, " why have you come late to the class?"
8. His grandfather said to him, " You must save for the rainy day"
9. The teacher said, " let him come in"
10. My father said to him, " do you know the rule of cricket?"

One word substitution

- | | |
|---|------------------------|
| 1. Printing using a stone or a metal plate with a completely smooth surface : | |
| Lithography | |
| 2. Mapping of earth and its formation | Geography |
| 3. Art related to ornate, good handwriting | Calligraphy |
| 4. Scientific study of bodily diseases | Pathology |
| 5. Study of birds | Ornithology |
| 6. Study of celestial bodies | Astronomy |
| 7. Study of collection of coins, tokens, paper money etc. | |
| Numismatics | |
| 8. Study of earth and rocks | Geology |
| 9. Study of election trends | Psephology |
| 10. Study of flying aero planes | Aviation |
| 11. Study of handwriting | |
| Graphology | |
| 12. Study of hereditary, genes and variation in living organisms | Genetics |
| 13. Study of human development | Anthropology |
| 14. Study of languages | Philology |
| 15. Study of living things | Biology |
| 16. Study of religion | Theology |
| 17. Study of science of insects | Entomology |
| 18. Study of sound and sound waves | Acoustics |
| 19. Study of the influence of planets and stars on human events | Astrology |
| 20. Study of the law of the flow of water and other liquids | Hydraulics |
| 21. Study of the relation between the organism and their environment | Ecology |
| 22. Study of various aspects of aging | Gerontology |
| 23. The science of time order | Chronology |
| 24. Study of religion | Theology |
| 25. The science of human development | Anthropology |
| 26. One with unlimited power | Autocrat |
| 27. One who walks on ropes | Funambulist |
| 28. An expert in writing by hand | Chirographer |
| 29. The doctor who attends to child delivery | Obstetrician |
| 30. The doctor who attends to corns in the feet and hands | Chiropodist |
| 31. The doctor who deals with the female reproductive system | Gynecologist |
| 32. The doctor who specializes in root canal and nerve treatment | Endodontic |
| 33. The doctor who straightens teeth | Orthodontist |
| 34. The doctor who treats bone problems | Orthopedician |
| 35. The doctor who treats eye diseases | Ophthalmologist |

10 If 15 men can manufacture 27 baskets in an hour, how many baskets would 45 men can manufacture in 40 minutes?

- a) (a) 27 (b) 35
b) (c) 40 (d) 54 (Correct)

11 Insert the missing number:

172 84 40 18

- a) (a) 7 (Correct) (b) 10
b) (c) 12 (d) 16

12 20 men can construct a building in 40 days. How long will it take 10 men to do this work?

- a) (a) 50 days (b) 60 days
b) (c) 70 days (d) 80 days (Correct)

13 Riaz can do a piece of work in 10 days and B can do it in 15 days. The number of days required by them to finish it, working together is:

- a) (a) 8 (b) 7
b) (c) 6 (Correct) (d) 4

14 16 men build a house in 10 days. How much time will it take 8 men to do this work?

- a) (a) 25 days (b) 20 days (Correct)
b) (c) 30 days (d) 32 days

15 A man pays 10% of his income for his income tax. If his income tax amounts to Rs. 1500, what is his income?

- a) (a) Rs. 13000 (b) Rs. 15000 (Correct)
b) (c) Rs. 17000 (d) Rs. 19000

16 A man is 5 times as old as his son. 2 years ago the sum of the squares of their ages was 114. Find the present age of son.

- a) (a) 7 years (Correct) (b) 9 years
b) (c) 8 years (d) $8\frac{1}{2}$ years

17 The number, whose 13% is 52, is

- a) (a) 300 (b) 400 (Correct)
b) (c) 500 (d) 900

18 Naeem Ahmed spends Rs.400 in getting a good table and sells it at Rs.600. Find the percentage of profit?

- a) (a) 90% (b) 45%
b) (c) 50% (Correct) (d) 80%

- 28 Naveed bought a practical copy Rs.60 and sold it Rs.40. How much loss did he get?
- a) (a) Rs.600 (b) Rs.60
b) (c) Rs.40 (d) Rs.20 (Correct)
- 29 The number, whose 17% is 51, is
- a) (a) 200 (b) 100
b) (c) 300 (Correct) (d) 210
- 30 A car washer can wash 8 cars in 18 minutes. At this rate how many cars can be wash, in three hours?
- a) (a) 13 (b) 40
b) (c) 80 (Correct) (d) 125
- 31 Ahmed spend Rs.44,000 to get a car and sells it at Rs.48,000. Find its percentage of profit?
- a) (a) 12% (b) 9.09% (Correct)
b) (c) 14% (d) 80%
- 32 Akbar bought a sweater for Rs.200 and sold it Rs.250. How much profit did Akbar get?
- a) (a) Rs.40 (b) Rs.20
b) (c) Rs.80 (d) Rs.50 (Correct)
- 33 The number, whose 20% is 100, is
- a) (a) 400 (b) 500 (Correct)
b) (c) 600 (d) 700
- 34 Salaam bought a pair of shoes for Rs.300 and sold it Rs.370. How much profit did Salaam get?
- a) (a) Rs.80 (b) Rs.70 (Correct)
b) (c) Rs.75 (d) Rs.20
- 35 The bridge is completed in 45 days by 105 men. How long it will take 90 men to do the work?
- a) (a) 68.7 days (b) 61 days
b) (c) 52 ½ days (Correct) (d) 60 days
- 36 If 40 men build 4 buildings in 12 months, how many men would be required to build 6 houses in 4 months?
- a) (a) 114 men (b) 180 men (Correct)
b) (c) 140 men (d) 160 men
- 37 If 80 men dug 4 holes in 12 months, how many men would be required to dig 6 holes in 4 months?
- a) (a) 140 men (b) 410 men
b) (c) 360 men (Correct) (d) 40 men

38 Which number will come next?

212 179 146 113, _____

- a) (a) 90 (b) 85
b) (c) 80 (Correct) (d) 75

39 If 15 men can do a piece of work in 8 days, how many men will finish it in 10 days?

- a) (a) 14 (b) 12 (Correct)
b) (c) 16 (d) 8

40 If 3 men or 6 boys can do a work in 20 days, then 6 men and 8 boys shall take:

- a) (a) 6 days (Correct) (b) 8 days
b) (c) 9 days (d) 20 days

41 The number, whose 25% is 150, is

- a) (a) 600 (Correct) (b) 700
b) (c) 800 (d) 900

42 If 20 men can do a piece of work in 8 days, how many men will finish it in 10 days?

- a) (a) 4 men (b) 16 men (Correct)
b) (c) 8 men (d) 18 men

43 Munir bought a compact disc from a manufacturer for Rs. 200; he paid a 15% sales tax. If he sold the disc to a customer for Rs. 260, calculate the cash profit.

- a) (a) Rs. 30.00 (Correct) (b) Rs. 35.00
b) (c) Rs. 32.50 (d) Rs. 28.00

44 Akbar sold his old gun Rs.900, which he was bought for Rs.2500. What is his % loss?

- a) (a) 64% (Correct) (b) 82%
b) (c) 94% (d) 15%

45 The total distance from school to house is 35km. Naveed khan covered a distance of 20km. What percentage of the whole distance has he covered?

- a) (a) 31.4% (b) 219%
b) (c) 48.57% (Correct) (d) 103.57%

46 The number, whose 5% is 35, is

- a) (a) 500 (b) 600
b) (c) 700 (Correct) (d) 800

47 If takes 14 taps to fill a swimming pool in 10 hours. How much time will it take 5 taps to fill the pool?

- a) (a) 25 (b) 26
b) (c) 27 (d) 28 (Correct)

Most Important Physics, Chemistry, & Biology MCQS

Physics

1. The absorption of ink by blotting paper involves: **Capillary action phenomenon**
2. Nuclear sizes are expressed in a unit named: **Fermi**
3. Light year is a unit of: **Distance**
4. Light from sun reaches us in nearly: **8 minutes**
5. Stars appears to move from east to west because: **The earth rotates from west to east**
6. Pa (Pascal) is the unit of: **Pressure**
7. Metals are good conductors of electricity because: **The contain free electrons**
8. Pick out the scalar quantity: **Pressure**
9. Rectifiers are used to convert: **Alternating current to Direct current**
10. Which is not emitted by radioactive substance? **Neutrons**
11. Sound waves in air are: **Longitudinal**
12. Magnetism at the centre of a bar magnet is: **Zero**
13. Lux is the SI unit of: **Intensity of illumination**
14. On a rainy day, small oil films on water show brilliant colors. This is due to: **Interference**
15. Sound of frequency below 20 Hz is called: **Infrasonic**
16. Movement of inertia is: **Tensor**
17. One thousand microns is equal to: **$10^{-3}m$**
18. Sound travels at the fastest speed in: **Steel**
19. Light travels at the fastest speed in: **Vacuum**
20. Light Emitting Diodes (LED) is used in fancy electronic devices such as toys emit: **Visible Light**
21. Optical fiber works on the: **Total internal reflection**
22. Supersonic plane fly with the speed: **Greater than the speed of sound**
23. Rainbow is due to: **Refraction and reflection of sunlight by water droplets**
24. Star which appear single to naked eye but are double when seen through a telescope are : **Binaries**
25. ML^2T^{-2} is the dimensional formula for: **Couple acting on a body**
26. Solar eclipse will take place when: **The moon is between the sun and the earth**
27. One watt-hour is equivalent to : **$3.6 \times 10^3 J$**
28. In which of the following industries is mica as raw materials? **Electrical**
29. Radiocarbon dating technique is used to estimate the age of: **Fossils**
30. Identify the vector quantity from the following: **Angular momentum**
31. Large astronomical telescope always use as objective: **Combination of lenses**
32. Natural radioactivity was discovered by: **Henri Becquerel**
33. Planets are : **Non-luminous heavenly bodies**
34. One nanometer is equal to? **$10^{-9}m$**
35. Minimum number of unequal vectors which can give zero resultant are : **Three**
36. Intensity of sound has: **An object existence**
37. Which tube used to produce X-ray? **Coolidge tube**
38. Electric power is measured in units of: **Watt**

39. What is the value of 1 KW =? **1000 w**
40. An electric fuse is based on: **The heating effect of the current**
41. Metals are good conductors of electricity because : **They contain free electron**
42. The best conductor of electricity among the following is: **Silver**
43. Kilowatt-hour is the unit of: **Energy**
44. Lightning is caused due to: **Electric discharge**
45. The metal used to make lightning conductors is: **Copper**
46. Good conductor of electricity is : **Graphite**
47. One kilowatt hour is equal to : **3.6 Mega Joule**
48. Materials that usually are good conductors of electricity: **Aluminum**
49. Pure water is bad conductor of electricity because it is: **Feebly ionized**
50. The metal whose electrical conductivity is more, is: **Silver**
51. Fuse wire is made of an alloy of: **Tin and Lead**
52. An object having the capability to do work is said to possess: **Energy**
53. What is another name for energy of motion? **Kinetic energy**
54. In which processes is energy released? **Respiration**
55. Rate of doing work is called: **Power**
56. The energy associated with motion is called: **Kinetic Energy**
57. The boiling point of water decreases at higher altitudes is due to: **Low atmospheric**
58. At boiling point of liquids, its: **Temperature remains constant**
59. Contact force is another name for? **Muscular force**
60. At hill stations, the boiling point of water will be: **Less than that at sea level**
61. Instrument used to measure the force and velocity of the wind is: **Anemometer**
62. When pressure is increased the melting point of ice : **Decrease**
63. It is difficult to cook rice : **At the top of a mountain**
64. Energy per unit volume is dimensionally equal to: **Pressure**
65. The force exerted by a magnet is an example of: **Non-contact force**
66. One bar is equal to : **10^5 Pa**
67. The weakest of all fundamental forces is: **Gravitational force**
68. The unit of force is a: **Derived unit**
69. Atmospheric pressure exerted on earth is due to: **Gravitational Pull**
70. SI unit of Force? **Newton**
71. What measure Air Pressure? **Barometer**
72. Friction can be reduced by changing from : **Sliding to rolling**
73. Frictional force acts in: **The opposite direction of the motion**
74. Rolling friction is caused by: **Non-elastics effects**
75. Every hot object emits ___ ? **Infrared rays**
76. The flow of thermal energy is called: **Heat**
77. Which is an insulator? **Glass**
78. Heat flows as a result of difference of? **Temperature**
79. Light beam which is highly directional is called: **Laser**
80. Speed of light is mixture in: **Vacuum**
81. The speed of light will be mimum while passing through: **Glass**
82. Who measure the velocity of light first? **Romer**
83. Light travels fastest in : **Air**
84. Light travels slowed in: **Glass**
85. Through which light cannot pass? **Book**
86. The speed of light in air is: **3×10^8 m/s**