

GSC201 Final Term

GSC201 Solved Final Temp Papers

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Total 27 questions, 10 MCQ's and 17 subjectives

Q-1 How can a teacher teach matter to students? 2 marks

Q-2 What is the purpose of teaching science? 2 marks

1. a) Helping Children Observe
2. b) Helping Children to Ask Questions
3. c) Helping Children To Hypothesize
4. d) Helping Children To Plan and Conduct Investigations
5. e) Helping Children to Interpret and Analyze
6. f) Helping Children to Communicate

Q-3 What is the role of students in structured inquiry? 2 marks

Structured Inquiry: Students are given the questions and procedure but collect their own data and make evidence based conclusions

Guided Inquiry: Students are given the questions but they plan the investigation, collect and organize their own data and make evidence based conclusions

Open Inquiry: Students generate their own questions, plan the investigation, collect and organise their own data and make evidence based conclusions

Q-4 How can students calculate the volume of a cuboid? 2marks

Volume = Length × Width × Height

Q-5 Why do solid objects float on water? 2 marks

Q-6 What are the affects of Evaporation? 2 marks

1. To bring down temperature 2. Recycle water (b) It makes the atmosphere cool and etc.

Q-7 In a scientific experiments how do students form hypotheses? 3 marks

When scientists do an experiment, they very often have data that shows their starting ... educators can assign a quiz to test student understanding of hypotheses.

Q-8 Write any 3 steps of recording the investigation in your own words? 3 marks

Q-9 What are three general phases of matter? 3 marks

Matter normally exists as either a solid, a liquid, or a gas. We call this property of matter the phase of the matter

Q-10 What preparation does a teacher need to do before students start measuring density

of water? 3 marks

Q-11 What are scientific practices? 3 marks

Scientific knowledge is acquired through a series of practices/abilities which together constitute scientific inquiry. These include:

Making predictions base on the tentative explanations or hypotheses

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r critical review

Q-12 What is the relationship between prior knowledge and learning? 3 marks

Prior knowledge affects how the learner perceives new information. There is widespread agreement that prior knowledge influences learning, and that learners construct concepts

from prior knowledge (Resnick, 1983; Glaserfeld, 1984).

Prior knowledge affects how a student organizes new information. The goal of learning is to incorporate new information into the existing organization of schema. A student uses that existing structure to assimilate new information.

Q-13 What is the importance of prior knowledge and learning in teaching of science? 5

Building upon prior knowledge is a very important part of teaching and learning.

The prior knowledge of students affects their learning therefore educators must keep this in mind when they design a lesson.

Teachers need to be aware of children's prior or existing ideas, of the learning goals and the nature of the difference between the two when they are planning and teaching so that they can take appropriate steps to bridge the gap. Children develop ideas, based on their everyday experiences, about natural phenomena before they are taught Science in school.

Q-14 Matter is made up of tiny particles that cannot be seen, how can teacher explain the properties of matter to students? 5 marks

The Properties of Matter. The general properties of matter result from its relationship with mass and space. Because of its mass, all matter has inertia (the mass being the measure of its inertia) and weight, if it is in a gravitational field (see gravitation).

Q-15 Write a brief note on types of graph? 5 marks

Making graph is very important skill in science. It is one of the most powerful ways of putting information down and shares it with people. For understanding the graph paper, firstly we want to know about the vertical and horizontal Line coming from top to bottom is vertical and going from left to right is called horizontal line.

Pictograph :: a pictograph uses an icon to represent quantity of data value in order to decrease the size of graph A key must be used to explain the icon. handles large data sets easily to using icons, visually appealing, easy to read, difficult to handle partial icons

Bar graph:: A bar graph displays discrete data in column can easily compare two or three data sets. uses only discrete data

Circle graph/pie chart: A pie chart displays data as a percentage or fraction of whole visually appealing, hard to compare two data sets

Line Graph: A line graph is used to record continuous data with time usually on horizontal axis. show range, maximum and minimum, gaps and clusters, suitable for small data set, not so appealing visually

When there are a lot of equal blocks of vertical and horizontal lines it is called a "grid".

Q-16 Write a brief note on how the students learn while measuring length? 5 marks

In the class activity teacher introduced the length notion. For the measurement of length we use the metric rule.

Q-17 What understanding do students need to develop mass and volume? 5 marks

Mass and volume are two units used to measure objects. Mass is the amount of matter an object contains, while volume is how much space it takes.

1. difference between boiling and boiling point. 2

Boiling is a process through which the water changes its state. And temperature at which boiling takes place is called boiling point.

2. two uses of bar graph. Bar graphs are used to display data in a similar way to line graphs. However, rather than using a point on a plane to define a value, a bar graph

uses a horizontal or vertical rectangular bar that levels off at the appropriate level.

3. role of students in structured approach. 2

Structured Inquiry: Students are given the questions and procedure but collect their own data and make evidence based conclusions

4. units of measuring mass.

Mass depend on the material and volume of the substance or object

The metric unit of mass commonly used are a kilogram or gram. one kilogram is equivalent to thousand gram

The measuring instrument is characterized by range of values it can measure e.g 0 500g or 0 to 1kg in the case of electronic balance

5. define raising question in your own words. 2

Raising questions about an object, event or phenomena is called questioning.

6. what is condensation. 2

Condensation means when a gas changes into liquids

7. when pie chart is used.3

Pie charts are generally used to show percentage or proportional data and usually the percentage represented by each category is provided next to the corresponding slice of pie. Pie charts are good for displaying data for around 6 categories or fewer.

8. difference between liter and milli liter. 3

Liters and milliliters volume units conversion factors are listed below. To find out how many milliliters in liters, multiply by the factor or use the converter below.

1 Liter = 1000 Milliliters

Liter (litre in British English) is a volume unit which equals to 1 cubic decimeter. It is commonly used in daily life to measure the fluids. 1 liter of water has a mass about 1 kilogram. The abbreviation is "l".

Milliliter (millilitre in British English) is a volume unit in metric system. The abbreviation is "ml".

9. how teacher helps the students to enhance their observational skills. 3

Science teachers spend time helping students develop their observation skills. Inferring and observing are closely related, but they are not identical. Observation is what one sees, inference is an assumption of what one has seen. Observation can be said to be a factual description, and inference is an explanation to the collected data. It's not a guess. If an observation can be termed as a close watch of the world around you through the senses, then inference can be termed as an interpretation of facts that has been observed.

Teachers can start out providing simple observations:

Observation: The grass on the playground is wet.

Possible inferences: It rained. The sprinkler was on. There is morning dew on the grass.

Observation: The line at the water fountain is long.

Possible inferences: It's hot outside. The students just came in from recess.

As you're working to develop these skills, encourage your students to incorporate their scientific vocabulary into their statements. "From what I observe on the grass, I infer that..."

10. find density of 200 grams mineral whose volume is 10 ml.3

$D = 200g / 10ml$

$D = 20ml$

11. what are process skills. 3

The ability to make good observations is also essential to the development of the other

science process skills: communicating, classifying, measuring, inferring, and predicting. The simplest observations, made using only the senses, are qualitative observations.

12. what are the guidelines which students should consider while discussion in the class. 3

Discussions can be an excellent strategy for enhancing student motivation, fostering intellectual agility, and encouraging democratic habits. They create opportunities for students to practice and sharpen a number of skills, including the ability to articulate and defend positions, consider different points of view, and enlist and evaluate evidence. Explicit ground rules or guidelines can help to ensure a respectful environment for discussion. The ground rules you use will depend on your class size and goals, but may include provisions such as these:

• speak respectfully to one another, even when disagreeing

• avoid using put-downs (even humorous ones)

• avoid disrupting the flow of thought by introducing new issues before the discussion of the previous issue has come to its natural end

• keep in confidence any information shared by a student in class

13 and 14 question is same.

write elements of project

• A driven question relevant to student lives

• Student centered learning

• Collaboration/team work

• Use of technology for investigation

• Interdisciplinary/cross disciplinary inquiry

• Production of artefacts

• Extended time frame

Performance based assessment or evaluation. 5

15. how teacher can motivate students for inquiry based learning. 5

Inquiry based teaching provides continuous opportunities for formative assessment.

While formative assessment is essential when teaching science through inquiry, this

powerful teaching strategy can also be applied effectively to all science teaching approaches – traditional book centered learning and paper and pencil tests.

16. some case study related question of students problem. 5

17. what is traditional cookbook approach of teaching science. explain 5

Traditional/Cookbook Science: Students confirming previously learnt material through activities

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