Specification Grid - 2081

First term exam - 2081

Class-8

Sub : Science & Technology Time : 2Hrs

F.M : 50

P.M :

S.N	Unit	Working Hour	(MCQ) No. of Questions	(VSQ) No. of questions	(SQ) No. of questions	(LQ) No. of questions	Unit Wise Marks	K 20%	U 30%	A 30%	H.A 20%
1	Scientific Learning	10	2	2	2	1	12	MCQ (2x1)	MCQ (3x1)	MCQ (3x1)	MCQ (2x1)
2.	Living Beings And Their Structure	12	2	2	2	1	12	V.SQ (2x1)	V.SQ (2x1)	VSQ (2x1)	VSQ (2x1)
3.	Force And Motion (Motion + Lever)	15	3	2	2	1	13	SQ (1x2)	SQ (3x2)	SQ (3x2)	SQ (1x2)
4.	Matter (up to 9.4)	15	3	2	2	1	13	LQ (1x4)	LQ (1x4)	LQ (1x4)	LQ (1x4)
	Total	52	10	8	8	4	50	10	15	15	10

K = Knowledge, U = Understanding, A = Application, H.A = Higher Ability

S.N	Types of Questions	Marking Schedule	Total
1.	Multiple choice questions (MCQ)	10x1	10
2.	Very short questions (VSQ)	8x1	8
3.	Short questions (SQ)	8x2	16
4.	Long questions (LQ)	4x4	16

Specification Grid - 2081
Second Terminal Examination - 2081

Class - 8 FM: 50

Sub - Science and Technology Time - 2 Hrs

S.N	Unit	Working Hours	(MCQ) (No. of	(VSQ) questions)	(SQ)	(LQ)	Unit Wise Marks	K (20%)	U (30%)	A (30%)	H.A (20%)
1.	Scientific Learning	10	1	1	1	-	4				
2.	Information and Communication Technology	30	2	2	2	1	12	MCQ (2x1)	MCQ (3x1)	MCQ (3x1)	MCQ (2x1)
3.	Living Beings And Their Structure	12	1	2	2	-	7	V.SQ (2x1)	VSQ (2x1)	VSQ (2x1)	VSQ (2x1)
4.	Life process	15	2	1	1	1	9	SQ (1x2)	SQ (3x2)	SQ (3x2)	SQ (1x2)
5.	Force and motion (All)	15	2	1	1	1	9	LQ (1x4)	LQ (1x4)	LQ (1x4)	LQ (1x4)
6.	Matter (All)	15	2	1	1	1	9				
	Total	97	10	8	8	4	50	10	15	15	10

K = Knowledge, U = Understanding, A = Application, H.A = Higher Ability

S.N	Types of Questions	Marking Schedule	Total
1.	Multiple choice questions (MCQ)	10x1	10
2.	Very Short questions (VSQ)	8x1	8
3.	Short questions (SQ)	8x2	16
4.	Long questions (LQ)	4x4	16

Specification Grid - 2081

§ Third Terminal Examination §

Class - 8 FM - 50

Sub - Science and Technology Time - 2Hr PM

S.N	Unit	Working Hours	(MCQ) (No. of questions)	(VSQ)	(SQ)	(LQ)	unit wise marks	K (20%)	U (30%)	A (30%)	HA (20%)
1	Scientific Learning	10	1	-	1	-	3				
2	Information and Communication Technology	30	1	1	1	1	8				
3	Living Beings and Their structure	12	1	1	1	-	4	MCQ (2x1)	MCQ (3x1)	MCQ (3x1)	MCQ (2x1)
4	Biodiversity and Environment	8	1	1	1	-	4	V.S.Q (2x1)	V.SQ (2x1)	V.SQ (2x1)	V.SQ (2x1)
5	Life process	15	1	1	-	1	6	SQ (1x2)	SQ (3x2)	SQ (3x2)	SQ (1x2)
6	Force and Motion	15	2	2	1	-	6	LQ (1x4)	LQ (1x4)	LQ (1x4)	LQ (1x4)
7	Energy in daily life	20	1	-	1	1	7				
8	Matter	15	1	1	-	1	6				
9	Materials used in daily life	15	1	1	2	-	6				
	(Total)	140	10	8	8	4	50	10	15	15	10

K = Knowledge, U = Understanding, A = Application, H.A = Higher Ability

S.N	Types of Questions	Marking Schedule	Total
1.	Multiple choice questions (MCQ)	10x1	10
2.	Very short questions (VSQ)	8x1	8
3.	Short questions (SQ)	8x2	16
4.	Long questions (LQ)	4x4	16

SPECIFICATION GRID, MODEL QUESTIONS & MARKING SCHEME

विज्ञान तथा प्रविधि (Science & Technology)

विशिष्टीकरण तालिका (Specification Grid)

सैद्धान्तिक परीक्षा(Theoretical Examination)

पूर्णाङ्क: 50 समय: 2 घण्टा

क्र.स. S.N.	एकाइ (Unit)	कार्यघण्टा Working hour	संज्ञानात्मक तह (Cognative level)				समूहगत अङ्कभार Setwise marks	एकाइगत अङ्कभार Unitwise marks
			ज्ञान Knowledge (15%)	बोध Understanding (30%)	प्रयोग Application (30%)	उच्च दक्षता Higher Ability (25%)		
1.	वैज्ञानिक अध्ययन Scientific study	10	बहु वैकल्पिक प्रश्न (MCQ) (2 × 1)	बहु वैकल्पिक प्रश्न (MCQ) (3 × 1)	बहु वैकल्पिक प्रश्न (MCQ) (3 × 1)	बहु वैकल्पिक प्रश्न (MCQ) (2 × 1)	9	3
2.	सूचना तथा सञ्चार प्रविधि Information and communication technology	30						6
3.	जीव र तिनीहरूको बनोट Living beings and their structure	12	अति छोटो प्रश्न (VSQ) (2 × 1)	अति छोटो प्रश्न (VSQ) (2 × 1)	अति छोटो प्रश्न (VSQ) (2 × 1)	अति छोटो प्रश्न (VSQ) (2 × 1)	12	4
4.	जैविक विविधता र वातावरण Biodiversity and environment	8						3
5.	जीवन प्रक्रिया (Life Process)	15						5
6.	बल र चाल (Force and Motion)	15	छोटो प्रश्न (1 × 2) (SQ)	छोटो प्रश्न (3 × 2) (SQ)	छोटो प्रश्न (SQ) (3 × 2)	छोटो प्रश्न (SQ) (1 × 2)	18	5
7.	दैनिक जीवनमा शक्ति Energy in daily life	20						7
8.	विद्युत् र चुम्बकत्व Electricity and Magnetism	10	लामो प्रश्न (LQ) (1 × 4)	लामो प्रश्न (LQ) (1 × 4)	लामो प्रश्न (LQ) (1 × 4)	लामो प्रश्न (LQ) (1 × 4)		3
9.	पृथ्वी र अन्तरिक्ष The Earth and Space	10						3
10.	पदार्थ (Matter)	15					11	6
11.	दैनिक जीवनमा प्रयोग हुने पदार्थहरू Materials used in daily life	15						5
	जम्मा (Total)	160	10	15	15	10	50	50

			समग्र प्रश्न योजना					
	प्रश्नको प्रकार	प्रति प्रश्न अङ्कभार	प्रश्न सङ्ख्या				जम्मा प्रश्न	जम्मा अङ्कभार
1.	बहुवैकल्पिक प्रश्न (MCQ)	1 अङ्क	2	3	3	2	10	10
2.	अति छोटा प्रश्न (VSQ)	1 अङ्क	2	2	2	2	8	8
3.	छोटा प्रश्न (SQ)	2 अङ्क	1	3	3	1	8	16
4.	लामा प्रश्न (LQ)	4 अङ्क	1	1	1	1	4	16
	कुल		6	9	9	6	30	50

First Terminal Examination-2081
(Model question)

Class-8 Fm-50
Sub - Science Time - 2 Hr P.M-

Group 'A'

1. Choose the correct alternatives

A. What is inductive research? It is the research in which
i) hypothesis is tested ii) description is done
iii) experiment is done iii) theory is generalized from observation.

B. Which of the following experiment is related to the physics.
i) physical characteristics of bases ii) Germination of seed in soil.
iii) Find the effect of atmospheric pressure iv) Formation of tail in comet

C. What is virology?
i) Study of virus ii) Study of bacteria
iii) Study of animal iv) Study of plant

D. Which cell organelles is absent in animal cell but present in plant cell?
i) Cell wall ii) Cytoplasm iii) Vacuoles iv) Mitochondria

E. Why ~~fungi~~ speed is scalar quantity? Because ....
i) It has both magnitude & fixed direction.
ii) It has no defined direction and only magnitude
iii) It's SI unit is m/s
iv) It is the rate of distance

F. Which of the following is ~~the~~ an example of third class lever?
i) Shovel ii) Wheel barrow iii) forceps iv) both i) and iii)

G. Suppose two bodies are moving with the velocity 15m/s and 20m/s the what is the relative velocity when they are moving in opposite direction.
i) 35m/s ii) 5m/s iii) 20m/s iv) -5m/s

H. What is the valency of chlorate?
i) 2 ii) 4 iii) 0 iv) Non of them.

I) Who developed modern periodic table?
i) S.I Newton ii) Einstein iii) Henry Mosley iv) Dalton

J) Valency of an element depend upon ----
i) Nucleus
ii) Valence electron
iii) innermost shell
iv) No. of proton

Group 'B' Very short question answer

2. What is Survey?
3. Name any two experiment related to biology.
4. Why is carolus linnaeus known as father of taxonomy?
5. What are plastids.
6. What is the formula to calculate acceleration of a body?
7. Write the principle of lever.
8. Define octet rule.
9. What is the valency of elements of group IIIA?

Group 'c' Short question answer

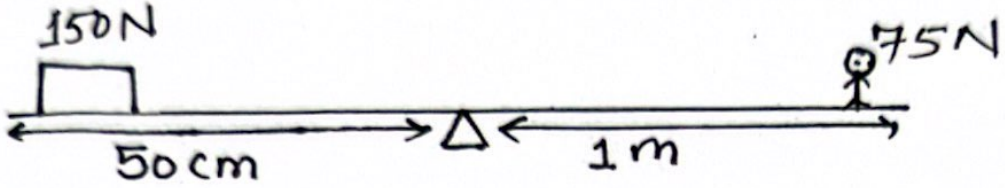
10. We must take precaution while doing practical works, why?
11. Define hypothesis. write it's types.
12. Write any two difference between Kingdom Monera and kingdom mycota.
13. Which cell organelle is also known as Suicidal bags of cell? Also write any one function of mitochondria.
14. A truck starts to move from rest. If it gains the acceleration of $3\ m/s^2$ in 5 sec, Calculate the final velocity and distance covered by the truck.
15. Derive $(\eta) = \frac{MA}{VR} \times 100\%$.
16. Valency of an oxygen is 2, why?
17. Write modern periodic law. And also write any one importance of periodic table.

Group 'D' Long question answer

18. What is scientific research? Write it's any 3 importance.

19. Draw a well labelled diagram of Bacteriophage virus.
How can you preserve food? write any two ways.

20. A lever always has efficiency less than 100%, why? Calculate MA, VR and efficiency of the lever shown in the diagram



21. Study the given table and answer the following questions.

Li	Be	B	C	N	O	F	Ne

i) Which period is shown in the figure

ii) Write any one characteristic of given period.

iii) Write one metal and one non metal from given period

iv) Which one is inert element and why?

* Best of Luck *

Model Question - 2081

Second Terminal Examination

Group-A [10 × 1 = 10]

1. Circle (O) the correct answer of the following questions.

A. What is the process of experiencing an object, event or process carefully through the sense organs?

i> test ii> curiosity iii> hypothesis iv> observation

B. What is the main function of a set-top-box (STB)

i> Receiving the digital signal ii> Displaying the television channel

iii> Decoding iv> All of the above

C. Which of the following is an advantage of cloud computi ?

i> Cloud migration ii> IT Governance

iii> Global scale iv> Unexpected Costs

D. What ~~happen~~ would happen if there was no cell membrane ?

i> cell organelles would be lost ii> cell would die

iii> cell couldn't conduct metabolism iv> nucleus would be lost

E. Which of the following animal adopt internal fertilizatio ?

i> Lizard ii> Frog iii> Sea-horse iv> Salamande

F. Which statement regarding the 'dormancy' is correct?
i> it preserves the life and germination potential of seeds.
ii> it preserves nutrients in seeds.
iii> it protects seeds from air and water.
iv> it conducts biochemical reactions during the germination of seeds.

G. Which one of the given statements is true?
i> negative acceleration is produced if an object moves with uniform motion.
ii> acceleration is not produced if an object moving with non-uniform motion.
iii> positive acceleration is called retardation.
iv> rate of change in the velocity of a body is called acceleration.

H. What is the formula to calculate the relative velocity of two bodies moving in the opposite direction?
i> $V_{AB} = V_A \times V_B$
ii> $V_{AB} = V_A - V_B$
iii> $V_{AB} = V_A + V_B$
iv> $V_{AB} = V_B \times V_A$

I. On which basis are the elements arranged in the modern periodic table?
i> atomic weight
ii> molecular mass
iii> atomic mass
iv> atomic number.

J. In which group of the modern periodic table does the element which electronic configuration $1s^2, 2s^2, 2p^6, 3s^2$ belongs to?

i) 1 ii) 2 iii) 13 iv) 14

Group 'B' [8x1 = 8]

Very short answer questions.

2. Define scientific research.
3. What is search engine?
4. Define cyber law.
5. Write any one important function of ribosome.
6. Write any two methods of food preservation.
7. Define double fertilization.
8. Define acceleration.
9. What ~~is modern~~ does $2n^2$ denote?

Group 'C' [8x2 = 16]

10. Observation is the first step in scientific learning. Give reason.
11. Differentiate between VR and AI.
12. What is cybercrime? Write any three cybercrimes.
13. Differentiate between prokaryotic cell and eukaryotic cell.

14. Can a single - celled organism contain tissues? Which cell organelle helps in photosynthesis?

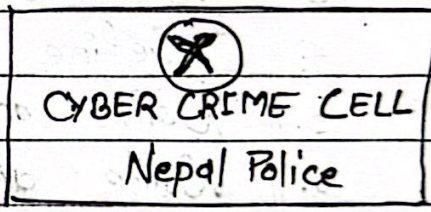
15. Differentiate between sperm and ova.

16. Is it possible that displacement is zero but not distance? Explain with example.

17. An atom is electrically neutral in spite of two charged particles present in it.

Group - 'D' [4×4 = 16]

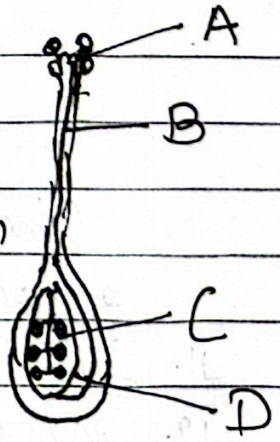
18. i> Look at the following picture, recognize the department of police and write the duties and responsibilities of the department searching in the Internet.



Figure

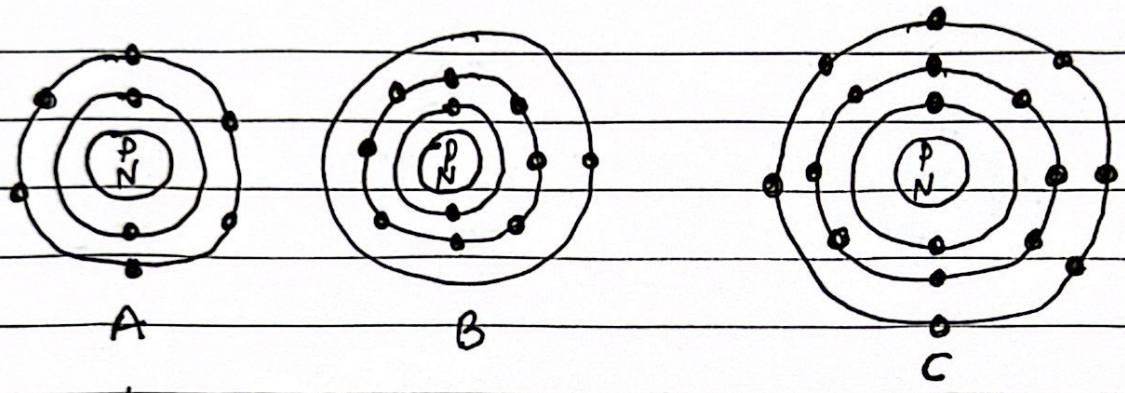
ii> Find its phone number to contact the department in case of emergency.

19. Write down the significance of sexual reproduction. Name the parts A to D shown in the given diagram.



20. Is velocity scalar or vector quantity? Why? A car moving at the velocity of 90 km/hr is stopped suddenly in 30 seconds by jamming brakes. Calculate its acceleration and distance covered become coming to rest.

21. Electronic configuration of 3 elements is shown in the figure:



i) Name the elements A, B and C and write their symbol.

ii) Which group of the periodic table does the element 'A' belong to and why?

Best of luck

Model Questions- 2081

Third Teeminal Examination

Subject:- Science and Technology F:M = 50
Time :- 2 hours

Group 'A' [10×1 = 10]

1. Circle (O) the correct answer of the following questions.

A. Which of the following practical work cannot be carried out in the science laboratory?

a) Preparation of oxygen gas.
b) Test of acid, base and salt.
c) Study about solid waste management in Kathmandu.
d) To verify working principle of lever.

B. What is the latest technology that can understand intelligence and human ability through the use of machines?

a) Robotics b) Artificial Intelligence
c) Virtual Reality d) Google Plus

C. In which form is the energy generated in a cell stored before it is distributed to organelles?

a) DNA b) RBC c) RNA d) ATP

D. Which of the given alternative is related to faunal diversity?

a) Animals b) Plants c) Animals and plants
d) Only mammals.

E. Which of the following statement indicates the meaning of cross-pollination?

a) Pollination within the same flower.
b) Pollination between two flowers.
c) Pollination between genetically similar flowers.
d) Pollination between genetically different flowers.

F. Which one of the following simple machines is a second class lever?

a) Shovel b) dhiki c) nut-crackers d) hammer

G. Which of the following statements is true?

a) More pressure is exerted if the area is less.
b) Pressure of an object is not affected by area.
c) Pressure increases with the increase in the area of the body.
d) Pressure remains the same although the force varies.

H. What is the range of frequency of audible sound?

a) 2Hz to 20Hz b) 20Hz to 20KHz
c) 20Hz to 200 KHz d) 20Hz to 200 Hz

I. Which of the following is the mass of negatively charged sub-atomic particles of an atom?

a) 1/1834 amu b) 1/1835 amu c) 1/1836 amu
d) 1/1837 amu

1. Which of the following water has the lowest hardness?

a) Rain water
b) Well water
c) Tube well water
d) River water

Group-B [8×1 = 8]

Very short answer questions:

2. Write the full form of URL.
3. What is a microorganism? Give an example.
4. Write the principle of biodiversity conservation.
5. Write the name of any one organism in which vegetative reproduction occurs through root.
6. What do you meant by retardation?
7. What can be done to lift heavy loads by using a lever?
8. What are the factors on which valency of an element depends?
9. What is an alloy?

Group-C [8×2 = 16]

Short answer questions

10. Write any two reasons for writing report after research work.
11. What is robotics? Mention any two important task performe by robots.
12. There should be proper coordination among cells, tissues and organs to conduct the life process. Why?

13. Mention any two importance of sustainable development.

14. If the brake is applied in a car moving with uniform velocity then the retardation of $2 m/s^2$ is produced and the car stops after 4 seconds. Calculate the initial velocity of the car.

15. Which mirror is suitable to use while shaving a bearded and doing make-up, and why?

16. What suggestion do you give to improve the declining agricultural production due to acid rain? Write any two points.

17. Steel is used more than iron in making household kitchen utensils. Why?

Group 'D' [4×4 = 16]

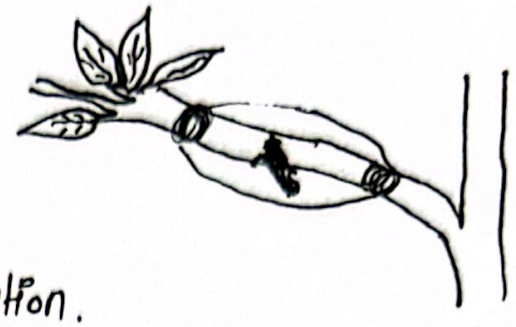
18. A person has created a fake facebook account in the name of famous person, sending friend request to more and more people and doing mental trauma to someone. On this basis, answer the following questions.

a) What is called for the above mentioned activities?

b) Write any two measures to be safe from above activities.

c) Write the name of any two social media that is used to spread spam and malware.

19. Study the given diagram and answer the following questions.

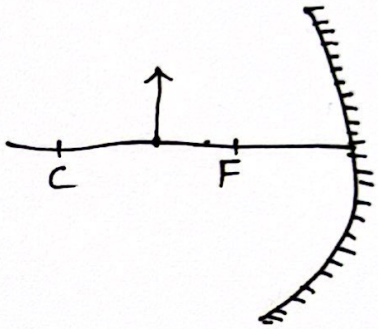


i) Name the method of vegetative propagation.

ii) Write a cause that vegetative propagation is applied commercially.

iii) Write two importance of this propagation.

D. Answer the following questions on the basis of given ray diagram.



i) What type of mirror is it?

ii) Where does the image form? Show by completing the given ray diagram.

iii) Write any two nature of the image so formed.

21. Study the table given alongside and answer the following questions:

Element	Electronic Configuration.
A	2,8,8,2
B	2,6
C	2,8

a) Name the inert gas from given table.

b) Out of A and B, which is metal? Why?

c) What is formed, when A and B are reacted with each other? Write with balanced chemical equation.

* Best of Luck *