Tribhuvan University Service Commission

Aptitude Test

Elaboration of Curriculum, References and Sample Questions

प्रथम पत्र, प्रथम खण्ड (अभिक्षमता परीक्षण)

पाठ्यक्रमको थप विस्तृतिकरण, सन्दर्भ सामाग्री तथा नमूना प्रश्नहरू

(क) शिक्षण अभिक्षमता (Teaching Aptitude)

अंकभार= ८, प्रश्न संख्या = ८, कूल अंक =८

शिक्षणको उद्देश्य, बिशेपता, उच्च शिक्षामा शिक्षणका निम्ति आवश्यक गुणहरु, शिक्षण विधि तथा विद्यार्थी मूल्याइन सम्बन्धी प्रश्नहरु ।		
थप विस्तृतिकरण		
उच्च तहमा शिक्षणको उद्देश्य तथा दृष्टिकोण (Objective and perspectives): अस्तित्ववादी (Existentialism), प्रगतिबादी (Progressivism), निर्माणवादी (Constructivism), आधुनिकताबादी र उत्तरआधुनिकताबादी (Modernism and post modernism)।		
उच्चशिक्षामा शिक्षणको लागि आवश्यक गुणहरुः व्यक्तिगत, सामाजिक तथा पेशागत (Required qualities for teaching in higher education: Individual, social and occupational/professional)		
शिक्षण बिधि (Teaching methods) समस्या समाधान बिधि :Problem solving method) खोज बिधि (Discovery/heuristic method) परियोजना बिधि (Project method) आलोचनात्मक बिधि (Critical pedagogy/method: सहकार्यात्मक बिधि (Collaborative method) निर्माणबादी बिधि (Constructivist pedagogy/method), इत्याद		
 सुवारात्मक, निर्णयात्मक तथा निदानात्मक मूल्याङ्ग (Formative, summative, and diagnostic evaluation) । मूल्याङ्गन प्रचलन (Assessment trends): अङ्गन पर्दात (Number scoring), अक्षराङ्गन पर्दात (Letter grading) । मूल्याङ्गनबाट प्राप्त जानकारीको प्रयोग (Using assessment information): निर्णय गर्न (Decision making), सुधारको लागि पृष्ठपोपण (Feedback for improvement) । 		

USEFUL RESOURCES (But not limited to the following list)

Lombardi, P. (2018). Instructional methods strategies and technologies to meet the needs of all. learners https://LibreTexts.org.

Miller, M.D., Linn, R. L. & Gronlund, N.E. (2009). Measurement and assessment in teaching Upper Saddle River, NJ: Pearson Education, Inc. Rana, S. P. J. B. (2010). Foundations of education. Bhotaliti, Kathmandu: Vidyarthi Pustak Bhandar.

Westbrook, J. Durrani, N. Brown, R. Orr, D. Pryor, J. Boddy, J. Salvi, F (2013). Pedagogy, curriculum, teaching practices and teacher education in developing countries. Department for International Development.

SAMPLE QUESTIONS

- 1. As a classroom collaborator in the context of higher education, what should be your role?
 - a) Evaluator of information for authenticity
 - b) Analyzer and synthesizer of information effectively
 - c) Innovator and Creator
 - d) Effective communicator
- 2. Which of the following assessments technique will you use to determine a student's progress based on her work?
 - a) Summative
 - b) Formative
 - c) Impassive
 - d) Diagnostic
- Assertion (A): Teaching is a profession.
 Reason (R): It is an intensive study for mastery of knowledge via training.
 Choose the correct answer from the option given below:
 - a) Both (A) and (R) are true but (R) is not the correct explanation of (A)
 - b) (A) is true and (R) is false
 - c) Both (A) and (R) are true and (R) is the correct explanation of (A)
 - d) Both (A) and (R) are false

(ख) संचार ∕ संवाद अभिक्षमता (Communication Aptitude)

अंकभार= ४, प्रश्न संख्या = ४, कूल अंक = ४

बिस्तृतिकरण	संचार/संवादका आधारभूत बिशेषताहरु, कक्षाकोठा संचार सम्बन्धी प्रश्नहरु ।	
शीर्षक	थप विस्तृतिकरण	
शीर्षक सचार/संवादका आधारभूत विशेषताहरु, कक्षाकोठा संचार	संचार/संवादबारे बुकाई; संचार/संवादका परिवेश, कक्षाकोठामा संचार/संवाद सीपको प्रयोग, विद्युतीय माध्यमबाट गरिने शिक्षण- सिकाइमा संवार/संवाद सीपको महत्व एवं प्रभाव । (Understanding about communication skills, Communication context, Classroom communication, Use of communication skills in classroom teaching learning and their importance.)	
(Bu	USEFUL RESOURCES t not limited to the following list)	

Dickinson, A. (n.d.). Communicating with the online student: The impact of e-mail tone on student performance and teacher evaluations. Journal of Educators Online https://files.eric.ed.gov/fulltext/EJ1150571.pdf.

Duta, N. (2014). From theory to practice: the barriers to efficient communication in teacher-student relationship. Procedia-Social and Behavioral Sciences. 187, 625-630.

Duta, N., Panisoara, G., Panisoara, and Ion-Ovidiu. (2015). The effective communication in teaching. Diagnostic study regarding the academic learning motivation to students. Procedio-Social and Behavioral Sciences 186 1007 – 1012.

Howard, M. (2014). Effective Communication in Higher Education.

https://files.eric.ed.gov/fulltext/ED547634.pdf.

Khan, A., Khan, S., Zia-Ul-Islam, S. & Khan, M. (2017). Communication skills of a teacher and its role in the development of the students' academic success. Journal of Education and Practice. Vol.8, No.1, pp. 18-21, https://files.eric.ed.gov/fulltext/EJ1131770.pdf.

Pessoa de Carvalho, A. M. (n.d.). Communication skills for teaching.

https://web.phys.ksu.edu/icpe/publications/teach2/pessoa.pdf.

Rawat, D. (2016). Importance of communication in teaching learning process. Scholarly Research Journal for Interdisciplinary Studies. Vol. 4/26 pp: 3058-3063.

http://www.sriis.com/pages/pdfFiles/148360449445,%20PAPER_SONALI%20FINAL%20(%20elixr).pdf

Suzić, R., Dabić, T. & Miladinović, S. Ć. (20143). Student-Teacher Communication in University Teaching, Sino-US English Teaching, Vol. 10, No. 1, 65-71.

https://www.researchgate.net/publication/271131448

SAMPLE QUESTIONS

- Communication is a part of,
 - a) Hard skill
 - b) Soft skill
 - c) Short skill
 - d) Vocational Skill
- 2. Effective communication is an important aspect in teaching. This statement indicates to the,
 - a) Verbal communication between teacher and student.
 - b) Nonverbal communication between teacher and student.
 - Use of a variety of modes of communication in classroom.
 - d) Teacher's body language.
- In online learning, students' performance is affected by,
 - a) Teachers' tone of verbal communication.
 - b) Teachers' tone of written communication.
 - c) Teachers' tone of verbal and written communications.
 - d) Teachers' nonverbal communication
- (ग) अनुसन्धान तथा प्रकाशन नैतिकता, तथ्याङ्ग व्याख्या (Research Aptitude, publication ethics and Data Interpretation)

अंकभार= १०, प्रश्न संख्या = १०, कूल अंक = १०

विस्तृतिकरण

अनुसन्धानको अर्थ (meaning of research), उद्देश्य (objectives) प्रकार (types), विधि (method), अनुसन्धान तथा प्रकाशन नैतिकता (research & publication ethics), तथ्याङ्का स्रोत (data sources), तथ्याङ्का पहुँच (access to data) र उपलब्धता (availability of data), प्रस्तुतिकरण (data presentation) तथा अनुसन्धानमा आधारित लेख (research based article), जर्मलको गुणस्तर (quality of journal) र शोधपत्रको खाका (dissertation/thesis framework) सम्बन्धी प्रश्नहरू।

USEFUL RESOURCES (But not limited to the following list)

- Creswell, J. W. (2018). Research design: qualitative, quantitative, and mixed methods approaches. Thousand Oaks: Sage.
- Jha, P. K., Shakya, D. D., Joshi, S. D., Chaudhary, R. P. and Sakya, S. R. (eds). 2004. Research methods and practice. Kathmandu: Buddha Academic Publishers and Distributors.
- Pant, P. R. (2018). Social science research and thesis writing (7th edition). Kathmandu: Buddha Academic Publishers and Distributors.
- Sekheran, U. & Bougie, R. (2013). Research methods for business: A skill-building process (6th edition). New Delhi: Wiley India.

SAMPLE QUESTIONS

- 1. Which one does not form a part of research proposal?
 - a) Methods
 - b) Objectives
 - c) Recommendations
 - d) References
- 2. Which one is not a tool of data collection in social sciences?
 - a) Campaigning
 - b) Questionnaire
 - c) Focus group discussion
 - d) Participatory rural appraisal
- 3. Which one is unethical in research?
 - a) Tampering data
 - b) Integrity of the individual researcher
 - c) A set of standards by which a particular group decides to regulate its behavior
 - d) Independent review
- 4. Which of the following types of researches determines the relationships between two or more variables?
 - a) Survey research
 - b) Correctional research
 - c) Action research
 - d) None of the above
- 5. What is synopsis of a research project?
 - a) It is the blueprint of research
 - b) It consists of the plan of research
 - c) It is the summary of the finding of research
 - d) All of the above
- 6. _____ may be the source of hypothesis.
 - a) Expectations
 - b) Chance-Intuition
 - c) Both a and b
 - d) None of these

(घ) सूचना तथा संचार प्रबिधि (Information and Communication Technology [ICT] ।

अंकभार= ८, प्रश्न संख्या = ८, कूल अंक =८

विस्तृतिकरण -	सुचना तथा संचार प्रविधिका सकारात्मक पक्षहरु, ICT ले निम्त्याएका चुनौतीहरु, शिक्षण सिकाइ तथा अनुसन्धानमा ICT को प्रयोग, virtual learning platforms, digital education resources and tools तथा तिनको प्रयोग सम्बन्धी प्रश्नहरु ।
शीर्षक	थप विस्तृतिकरण

- ii. A set of rules for acceptable online behavior
- iii. Protection of the digital information of private citizens.
- Category of software which aims to steal personal information.

Key concepts: 1. Cyberbullying 2. Digital Privacy 3. Spyware 4. Netiquette

- a) i-1, ii-2, iii-3, iv-4 b) i-1, ii-4, iii-3, iv-3 c) i-4, ii-2, iii-3, iv-1 d) i-2, ii-1, iii-4, iv-3
- 3. Which of the following list includes the 5Rs of Open Educational Resources?
 - a) Retain, respond, reinvent, remix, redistribute
 - b) Reuse, remodel, refine, remix, redistribute
 - c) Reuse, revise, remix, redefine, redistribute
 - d) Retain, reuse, revise, remix, redistribute

(ड) मानव, समाज तथा बाताबरण (People, Society and Environment)

अंकभार= १०, प्रश्न संख्या = १०, कूल अंक =१०

विस्तृतिकरण	नेपालको भौगोलिक, जनसांख्यिक संरचना, राज्य व्यवस्था तथा, भाषिक, जातीय एवं सांस्कृतिक संपदा, प्राकृतिक स्रोत, मानिस र बातावरण बीच अन्तरसम्बन्ध, प्राकृतिक वातावरणमा मानवीय हस्तक्षेप र यसको परिणाम सम्बन्धी प्रश्नहरू ।
शीर्षक	थप विस्तितकरण
राज्य व्यवस्था	व्यवस्थापिका, कार्यपालिका र न्यायपालिका बीचको अन्तरसम्बन्ध, सार्वजनिक नीति तर्जुमा, कार्यान्त्रयन, अनुगमन र मूल्यांकन ।
भाषिक, जातीय एवं सांकृतिक संपदा	नेपालका त्रिविध जातः जातिः वर्गः समुदायहरूको सामाजिक, आर्थिक, सांस्कृतिक र धार्मिक अवस्था र रहनसहन, प्रतिनिधित्वको सिद्धान्त र समानुपातिक प्रतिनिधित्व
प्राकृतिक स्रोत	प्राकृतिक स्रोत र उर्जा स्रोत नेपालमा, उपलब्ध निवकरणीय र गैरनिवकरणीय प्राकृतिक तथा उर्जा स्रोतहरुको बतेमार्न अवस्था, दिगो उपयोग तथा संबद्धेग । (Renewable and non- renewable natural and energy resources of Nepal: Present status, sustainable use and conservation)।
मानिस र बातावरण बीचको संबन्ध तथा प्राकृतिक बाताबरणमा मानिसको हस्तक्षेप र यसको परिणाम	प्रदूषण, खाद्य असुरक्षा, जलवायु परिवर्तन, जैविक विविधता वनिवनाश, दिगो विकासको अवधारणा ।
	USEFUL RESOURCES (But not limited to the following list)

Economic Survey (latest issue), Ministry of Finance, Government of Nepal.

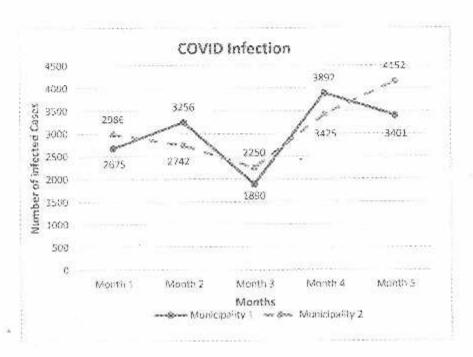
Statistical Year Book (latest issue), Central Bureau of Statistics, Government of Nepal.

Nepal Living Standard Survey (latest issue), Central Bureau of Statistics, Government of Nepal.

Latest publications of the Ministry of Forest and Environment, Government of Nepal.

SAMPLE QUESTIONS

1. Read the graph and answer the question below.



Which two months was the smallest proportional increase or decrease in infected cases in Municipality 1 in comparison with the previous month?

- a. Months 1 and 2
- b. Months 2 and 3
- c. Months 3 and 4
- d. Months 4 and 5
- Assertion (A): Indoor air pollution is a serious health hazard.
 Reason (R): The dispersal of air pollutants is rather limited in indoor environment.
 Choose the correct answer from the code given below:
 - a) Both (A) and (R) are true but (R) is not the correct explanation of (A)
 - b) (A) is true and (R) is false
 - c) Both (A) and (R) are false
 - d) Both (A) and (R) are true and (R) is the correct explanation of (A)
- 3. Goal 1 of Sustainable Development Goals is about poverty. What is the aim of this Goal?
 - a) Cut poverty in half by 2030
 - b) Reduce poverty by 75% by 2030

- c) End poverty in all its forms everywhere.
- d) Help each nation make progress on reducing poverty.

(च) उच्च शिक्षा प्रणाली (Higher Education System)

अंकभार= ४, प्रश्न संख्या = ४, कूल अंक =४

विस्तृतिकरण	नेपालको संविधानमा शिक्षा सबन्धी प्रावधानहरू, नेपालको शिक्षा प्रणाली, नेपालमा उच्च शिक्षाको विकास र बर्तमान अवस्था, उच्च शिक्षा नीति ।
शीर्षक	धप विस्तृतिकरण
नेपालको सॉवधानमा शिक्षा संबन्धी प्रावधानहरू, नेपालको शिक्षा प्रणाली, नेपालमा उच्च शिक्षाको विकास र वर्तमान अवस्था, उच्च शिक्षा नीति ।	 नेपालको संविधानमा शिक्षा सबन्धी प्रावधानहरु नेपालको शिक्षा प्रणाली:औपचारिक, अनौपचारिक, जीवन पर्यन्त, मौलिक र खुला शिक्षा । नेपालमा उच्च शिक्षाको विकास र वर्तमान अवस्था उच्च शिक्षाको बृद्धि, विकास, उच्च शिक्षाका शैक्षिक संस्थाहरुको विविधिकरण विश्वविद्यालय अनुदान आयोग । उच्चशिक्षा नीति ।

(But not limited to the following list)

नेपालको संविधान, २०७२ । राष्ट्रिय शिक्षा नीति, २०७६ ।

SAMPLE QUESTIONS

- 1. The mandate of the University Grants Commission (UGC) Nepal includes:
 - Disbursing grants to universities and colleges
 - Recognizing and monitoring technical institutions II.
- Funding research centers in universities iii.
- W. Managing various scholarship programs

Choose the correct answer from the combination given below:

- a) i, ii, and iv
- b) i, iii, and iv
- c) I, ii, and iii
- d) I, II, III, and iv
- 2. The purpose of value education is based served by focusing on:
 - a) Cultural practices prevailing in the society
 - b) Norms of conduct laid down by social group
 - c) Concern for human value
 - d) Religious and moral practices
- 3. Which of the following statements are correct about distance education in Nepal?
 - It supplements formal education.

- It reduces the cost of education.
- It replaces the formal education
- It enhances access to education iii.

Select the correct answer from the codes given below:

- b) i, ii. iii. and iv
- c) i, iii, and iv
- d) i, ii, and iv
- e) H, IH, and IV

(छ) त्रिभुवन विश्वविद्यालय (Tribhuvan University)

अंकभार= ५, प्रश्न संख्या = ५, कूल अंक =५ त्रि. वि. ऐन, नियम तथा सांगठनिक स्वरुप सम्बन्धी प्रश्तहरु । USEFUL RESOURCES विस्तृतिकरण

(But not limited to the following list)

त्रिमुबन विश्वविद्यालय संगठन तथा शैक्षिक प्रशासन सम्बन्धी नियम २०५० त्रिभुवन विश्वविद्यालय शिक्षक, कमेचारी सेवा सम्बन्धी नियम २०५०

SAMPLE QUESTIONS

- 1. The annual budget of Tribhuvan University is approved by.
- a) University Grants Commission
- b) The Senate
- c) Executive Council
- d) Budget Division of TU
- A college is willing to introduce a new course:
- b) The concerned subject committee develops the course, and the Faculty Board approves it.
- c) Faculty Board develops the course and Curriculum Development Center approves it.
- d) Subject Committee develops the course, and Academic Council approves it on the
- 3. In 2020 AD (2077 BS), the TU day was observed on June 29, 2020/ Asar 15, 2077/ Asar Sukla nawami, 2077. Next year it will be observed on:
- a) June 29 as it is observed as per the Gregorian calendar
- b) On Asar 15, as it is observed as per Bikram Sambat calendar.
- c) On Asar sukla nawami as it is observed as per lunar calendar.
- d) Can't be said as it is decided by the Executive Council each year.

सुचना तथा संचार प्रविधिका सकारात्मक पक्षहरु (Positive aspects of ICT) Introduction to ICT and its application. Application of ICT in education and different sector. Use of the internet and social media for education.
ICT ले निम्त्याएका चुनौतीहरु (Challenges caused by the ICT) • Introduction to cybercrime, information security and privacy. • Safe online work place and netiquettes. • Ensuring secure and trusty working place in virtual space.
Virtual learning platforms and their uses Concept of online/blended learning Learning management system and practices in Nepal Video conference and Virtual learning platform used in Nepal Collaborative tools used for teaching learning in Nepal. Use of ICT in data collection, analysis and presentation. Pros and cons on Virtual Learning.
 Concept of e-Library and Open Educational Resources (OER). Digital research tools and techniques used in Higher Education. Benefit of online publication (podcasting, video-casting,

Turban, R. R. (2014). Introduction to information technology. John Wiley and Sons (Asia) Pvt. Ltd."

V. Rajaraman, Neeharika Adabala (2014). Fundamentals of computers 6th Edition. New Delhi:

https://en.unesco.org

https://www.tucl.org.np

http://www.olenepal.org

https://www.mendeley.com/

https://en.unesco.org/covid19/educationresponse/solutions

https://www.microsoft.com/en-us/digitalliteracy

SAMPLE QUESTIONS

- 1. Which one of the following in open source learning management system for teacher and students?
 - a) Coursera
 - b) Moodle
 - c) Udemy
 - d) Masterclass
- 2. Match the statements with the key concepts and identify the correct combination:
 - Sending, posting, or sharing negative, harmful, false, or mean content about someone else

SYLLABUS FOR AGRONOMY

Paper: First 'kha'

Unit	Subject area	Marks	Section-Kha
1	Principle of Agronomy- fundamentals of crop cultivation	10	
2	Agronomy of cereal crops, grain and legumes and commercial crops- fundamental and advances	10	
3	Weed science & management, Seed science and technology- fundamentals and advances	10	10 MCQ from each unit
4	Crop modeling, crop physiology, plant-water relationship	10	
5	Farming systems, organic agriculture and sustainable agriculture	10	

Paper: Second 'ka'

Unit	Subject area	Marks	Section-Ka
1	Principle of Agronomy- fundamentals of crop cultivation	10	
2	Agronomy of cereal crops, grain and legumes and commercial crops- fundamental and advances	10	
3	Weed science & management, Seed science and technology- fundamentals and advances	10	1 analytical question from each section
4	Crop modeling, crop physiology, plant-water relationship	10	
5	Farming systems, organic agriculture and sustainable agriculture	10	

SYLLABUS FOR AGRICULTURAL ECONOMICS

Paper: First 'kha'

Unit	Subject area	Marks	Section-Kha
1	Principles of economics; project appraisal; introductory statistics and research methods in social sciences	10	
2	Farm management and micro-economics & public economics	10	
3	Resources economics, financial management in agriculture, agribusiness- fundamental and advances	10	10 MCQ from each unit
4	International trade, agricultural marketing & cooperative,	10	
5	Macro-economics; Econometrics; plan & policies of Nepalese agriculture	10	

Paper: Second 'ka'

Unit	Subject area	Marks	Section-Ka
1	Principles of economics; project appraisal; introductory statistics and research methods in social sciences	10	
2	Farm management and micro-economics & public economics	10	
3	Resources economics, financial management in agriculture, agribusiness- fundamental and advances	10	1 analytical question from each section
4	International trade, agricultural marketing & cooperative,	10	
5	Macro-economics; Econometrics; plan & policies of Nepalese agriculture	10	

SYLLABUS FOR HORTICULTURE

Paper: First 'kha'

Unit	Subject area	Marks	Section- Kh
1	General and Fundamentals of horticultural sciences (Terminologies, PGRs, growth and development, training, pruning, classifications, scope, importance, limitations, horticultural zones)	10	
2	Vegetable and spice crops production (Status, scope, limitations, importance, production technologies, seed production)	10	10 MCQ
3	Ornamental horticulture, floriculture, landscaping, agro-forestry	10	from each unit
4	Postharvest horticulture, postharvest physiology, Protected and precision horticulture	10	
5	Fruits and Plantation Crops Production (Status, scope, limitations, importance, production technologies)	10	

Paper: Second 'ka'

Unit	Subject area	Marks	Section-K
1	General and Fundamentals of horticultural sciences (Terminologies, PGRs, growth and development, training, pruning, classifications, scope, importance, limitations, horticultural zones)	10	
2	Vegetable and spice crops production (Status, scope, limitations, importance, production technologies, seed production)	10	One analytical question
3	Ornamental horticulture, floriculture, landscaping, agroforestry.	10	from each unit
4	Postharvest horticulture, postharvest physiology, Protected and precision horticulture	10	
5	Fruits and Plantation Crops Production (Status, scope, limitations, importance, production technologies)	10	

SYLLABUS FOR SOIL SCIENCE

Paper: First 'Kha'

Unit	Subject area	Marking (weightage)	Paper First Part "Kha"
1	Principles of soil fertility & fertility problems in Nepal	10	
2	Chemistry of soil fertility, organic matter and submerged soil	10	
3	Soil physical, chemical and biological properties and land use planning of Nepal	10	10 MCQ from each unit
4	Soil microbiology, biofertilizers and its application in Nepal	10	
5	Land degradation, soil pollution and their effect in Nepal	10	

Paper: Second 'ka'

Unit	Subject area	Marking (weightage)	Paper Second Part "Ka"
1	Principles of soil fertility & fertility problems in Nepal	10	
2	Chemistry of soil fertility, organic matter and submerged soil	10	
3	Soil physical, chemical and biological properties and land use planning of Nepal	10	One analytical question from each unit
4	Soil microbiology, biofertilizers and its application in Nepal	10	
5	Land degradation, soil pollution and their effect in Nepal	10	