

ICOLD 발간 총회 QUESTION 리스트

First Congress. Stockholm(Sweden), 1933

Question 1a - Deterioration by ageing of the concrete of weight dams.

Question 1b - Influence of internal temperature and distorsion of weight dams.

Question 2a - Research methods so as to ascertain whether a given materials is suitable for being used in the construction of an earthdam.

Question 2b - Study of physical laws governing infiltration of water through the dam and the subjacent soil.

Second Congress. Washington (USA), 1936

Question 3 - Special cements.

Question 4 - Design and waterproofing of shrinkage, contraction and expansion joints.

Question 5 - Study of facing of masonry and concrete dams.

Question 6 - Geotechnical studies of foundations materials.

Question 7 - Calculation of the stability of earth dams.

Third Congress. Stockholm(Sweden), 1948

Question 8 - Uplift and resulting stresses in dams.

Question 9 - Methods and instruments for measuring stresses and strains in earth and concrete dams.

Question 10 - Most recent dispositions to avoid piping.

Question 11 - Information obtained from the use of testing methods and of special cements in large dams.

Fourth Congress. New Delhi(India), 1951

Question 12 - Methods for determining the maximum flood discharge that may be expected at a dam and for which it should be designed. Selection of type, capacity and general arrangements of temporary or permanent outlets and spillways.

Question 13 - Design and construction of earth and rockfill dams with their core walls and diaphragms.

Question 14 - Sedimentation in reservoirs and related problems.

Question 15 - Concrete for large dams.

Fifth Congress. Paris(France), 1955

Question 16 - Design and construction of dams on permeable soils and methods of foundation treatment.

Question 17 - Economics and safety of different types of concrete dams.

Question 18 - Settlement of dams due to compressibility of the dams materials or of the foundations soil, including earthquake problems.

Question 19 - The relation of the cements content of the concrete to performance in practice of:

- a) gravity dams(interior and exterior) ;
- b) arch dams;
- c) buttress dams and its influence on permeability and frost resistance.

Sixth Congress. New York(USA), 1958

Question 20 - Heightening of existing dams including methods of constructing new dams in successive stages.

Question 21 - Observation of stresses and deformations in dams and in their foundations and abutments; and a comparison of these observations with computations and tests on small scale models.

Question 22 - Compaction methods and moisture content for materials used in the construction of earth core and supporting fill for earth and rockfill dams.

Question 23 - Use of admixtures and pozzolanic materials in concrete for dams and the influence of the finer sand particles.

Seventh Congress. Rome(Italy), 1961

Question 24 - The selection, processing and specification of aggregates for concrete for large dams.

Question 25 - Underground work in connection with large dams.

Question 26 - Modern techniques of concrete dams for wide valleys and ancillary works.

Question 27 - Sealing of earth and rockfill dams with bitumen and other materials.

Eighth Congress. Edinburgh(Great Britain), 1964

Question 28 - Physical and mechanical properties of rock in situ, means of determining these properties and improving them, with special reference to the design and construction of large dams.

Question 29 - Results and interpretation measurements made on large dams of all types, including earthquake observations.

Question 30 - Design of concrete for large dams of all types and influence of age on concrete properties.

Question 31 - Design, methods of construction and performance of high rockfill dams(above or about 80m).

Ninth Congress. Istanbul(Turkey), 1967

Question 32 - The safety of dams from the point of view of the foundations and the safety of reservoir banks.

Question 33 - Temporary and permanent provisions for the control of flows.

Question 34 - The behaviour and deterioration of dams.

Question 35 - Dams in earthquake zones or other unfavourable situations.

Tenth Congress. Montreal(Canada), 1970

Question 36 - Recent developments in the design and construction of earth and rockfill dams.

Question 37 - Recent developments in design and construction of dams and reservoirs on deep alluvial, karstic, or other unfavourable formations.

Question 38 - Supervision of dams and reservoirs in operation.

Question 39 - Recent developments in the design and construction of concrete dams.

Eleventh Congress. Madrid(Spain), 1973

Question 40 - The consequences on the environment of building dams.

Question 41 - Flow control and energy control during construction and after completion.

Question 42 - Impervious elements and slope protection on earth and rockfill dams.

Question 43 - New ideas for more rapid and economic construction of concrete dams.

Twelfth Congress. Mexico City(Mexico), 1976

Question 44 - Problems associated with special types of fill dams.

Question 45 - Leakage investigations and drainage of dams and their foundations.

Question 46 - Preliminary planning of dam developments.

Question 47 - The effects on dams and reservoirs of some environmental factors.

Thirteenth Congress. New Delhi(India), 1979

Question 48 - Interface problems of dams.

Question 49 - Deterioration or failures of dams.

Question 50 - Large capacity outlets and spillways.

Question 51 - Seismicity and aseismic design of dams.

Fourteenth Congress. Rio de Janeiro(Brazil), 1982

Question 52 - Safety of dams in operation.

Question 53 - Influence of geology and geotechnics on the design of dams.

Question 54 - Reservoir sedimentation and slope stability. Technical and environmental effects.

Question 55 - Materials and construction methods for embankment dams and cofferdams.

Fifteenth Congress. Lausanne(Switzerland), 1985

Question 56 - Dam and foundation monitoring.

Question 57 - Concrete dams - an old problem always present: cracking; a new technology: rolled concrete(roll concrete).

Question 58 - Foundation treatment of seepage.

Question 59 - Rehabilitation of dam to ensure safety.

Sixteenth Congress. San Francisco(USA), 1988

Question 60 - Reservoirs and the environment

- Experience in management and monitoring.

Question 61 - Embankment dams: impervious elements other than clay cores.

Question 62 - New developments in the construction of concrete dams.

Question 63 - Design flood and operational flood control.

Seventeenth Congress. Vienna(Austria), 1991

Question 64 - Environmental issues in dam projects.

Question 65 - Ageing of dams and remedial measures.

Question 66 - Dams on difficult foundations.

Question 67 - New developments for fill dams and fill cofferdams.

Eighteenth Congress. Durban(South Africa), 1994

Question 68 - Safety assessment and improvement of existing dams.

Question 69 - Environmental experience gained from reservoirs in operation.

Question 70 - Staged construction, raising or modification of dams.

Question 71 - Deterioration of spillways and outlet works.

Nineteenth Congress. Florence(Italy), 1997

Question 72 - Innovative financing of projects involving dams.

Question 73 - Special problems with earthfill dams.

Question 74 - Performance of reservoirs.

Question 75 - Incidents and failures of dams.

Twentieth Congress. Beijing(China), 2000

Question 76 - The use of risk analysis to support dams safety decisions and management.

Question 77 - Benefits and concerns about dams.

Question 78 - Monitoring of dams and their foundation.

Question 79 - Gated spillways and other controlled release facilities and dam safety.

Twenty - first Congress. Montreal(Canada), 2003

Question 80 - Financing hydraulic projects including dams.

Question 81 - Economic evaluation of hydraulic projects including dams.

Question 82 - Ageing and rehabilitation of concrete and masonry dams and appurtenant works.

Question 83 - Seismic aspects of dams.

Twenty second Congress. Barcelona(Spain), 2006

Question 84 - Technical solutions to reduce time and costs in dam design and construction.

Question 85 - Management of the downstream impacts of dam operation.

Question 86 - Safety of earth - and rockfill dams.

Question 87 - Flood and drought evaluation and management.

Twenty third Congress. Brasilia(Brazil), 2009

Question 88 - Dams and hydropower.

Question 89 - Management of siltation in existing and new reservoirs.

Question 90 - Upgrading of existing dams.

Question 91 - Dam safety management.

Twenty fourth Congress. Kyoto(Japan), 2012

Question 92 - Environmental friendly techniques for dams and reservoirs.

Question 93 - Safety.

Question 94 - Flood discharge.

Question 95 - Ageing and upgrading.

Twenty fifth Congress Stavanger(Norway), 2015

Question 96 - Innovation and utilization of dams and reservoirs.

Question 97 - Spillways.

Question 98 - Embankments and tailings dams.

Question 99 - Upgrading and re - engineering of existing dams.

Twenty sixth Congress. Vienna(Austria), 2018

Question 100 - Reservoir Sedimentation and Sustainable Development.

Question 101 - Safety and Risk Analysis.

Question 102 - Geology and Dams.

Question 103 - Small Dams and Levees.

Twenty seventh Congress. Marseille(France), 2022

Question 104 - Concrete Dams Design Innovation and Performance.

Question 105 - Incidents and Accidents concerning dams.

Question 106 - Surveillance, Instrumentation, Monitoring and Data acquisition.

Question 107 - Dams and Climate Change.